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PACKAGE-TESTING AND ADVISORY INSTITUTIONS

THIS LIST, representing an assembly for reference purposes of the agencies—public, semi-public and private—that are in position to contribute, directly or indirectly, to a knowledge of packages and packaging, has been compiled from known sources. It is to be hoped that readers, knowing of other such organizations, will advise PACKAGING CATALOG, so that these may be included in subsequent issues.

American Bottlers of Carbonated Beverages, 726 Bond Bldg., Washington, D. C.: Maintains, incident to its service activities, a trade mark bureau which comes within hail of packaging through efforts to stabilize notations on lithographed crowns, etc.

American Management Association, 20 Vesey St., New York: Research on packaging carried on incident to the planning for the annual Packaging Conference, Clinic and Exposition.

American Society for Testing Materials, 1315 Spruce St., Philadelphia, Pa.: Limited in its service to the packaging industries but makes some contact via its work on the standardization of specifications and methods of tests for miscellaneous materials such as papers and similar products.

American Spice Trade Association, 82 Wall St., New York City: Has assembled considerable data on packaging in the spice field incident to simplification or standardization of spice containers.

American Standards Association, 29 West 39th St., New York City: A federation of 37 national technical societies and trade associations designed to serve as a clearing house through which the standardization work of technical and industrial bodies is correlated. Devoted, prior to 1933, to national industrial standards, the American Standards Association, in that year, came into the packaging picture in a large dimension through taking over, from the National Bureau of Standards, the organization units known as the Division of Trade Standards, the Division of Specifications and the Division of Simplified Practice, all of which are concerned both directly and indirectly with packaging materials and packaging practice.

American Veneer Package Association, Washington Loan & Trust Bldg., Washington, D. C.: Scope of research indicated by title.

American Warehousemen's Association, 222 West Adams St., Chicago, Ill.: A resource for the answering of technical questions bearing upon package design and package construction as influenced by considerations of storage in, and distribution from, public warehouses. Also for details on the procedure of repacking or repackaging as carried on in local or regional warehouses.

American Waxed Paper Association, 342 Madison Ave., New York City: This organization claims that its standard requirements for packaging have resulted in the elimination of many needless sizes and that the organization has further contributed to the cause of better packaging by establishing standards for quality, weight and other trade specifications.

Associated Cooperage Industries of America, 2008 Railway Exchange Bldg., St. Louis, Mo.: Studies of the properties, construction and uses of tight and slack wooden barrels and kegs.

Associated Knit Underwear Manufacturers of America, Mann Building, Utica, N. Y.: Has on file data accumulated preliminary to the adoption of five standard sizes of boxes for the underwear line.

Bureau of Business Research, School of Business Administration, University of Pittsburgh, Pittsburgh, Pa.: Has conducted packaging studies, notably "The Investigation of Consumer Attitude Toward Meat Packages," carried out several years since with the cooperation of the *National Provisioner*.

Bureau of Fisheries, Department of Commerce, Washington, D. C.: A national bureau concerned with the maintenance and extension of the commercial fisheries of the United States and Alaska. Some years ago the bureau gathered, at first hand, valuable information on the containers and packages used in shipping shucked oysters. During the past year the bureau has established a refrigeration laboratory to facilitate study of the improvements in the methods of handling fresh fish. Technologists of the Division of Fishery Industries are devoting much attention to the packaging of fresh, frozen and smoked products and will be in a position to give authoritative advice to packagers.

Census of Manufactures, and Census of Distribution, The Bureau of the Census, Department of Commerce, Washington, D. C.: Outstanding sources for authoritative statistical information covering the production and distribution of all classes of packages and packaging materials.

Container Testing Laboratories, Inc., 300 Fourth Ave., New York City: An organization of consulting engineers specializing in the design, construction, packing, testing and transportation problems of containers for all commodities.

The Cotton-Textile Institute, Inc., 320 Broadway, New York City: With the object of extending the uses of cotton, has carried on extensive experiments and tests on new uses for cotton bags and other cotton containers for industrial use.

W. V. Cruess, Associate Professor of Fruit Products, 336 Hilgard Hall, College of Agriculture, University of California, Berkeley, Cal., has gathered first-hand valuable information on the packaging of fruit products and similar merchandise.

H. C. Diehl, U. S. Agricultural Experiment Station, Wenatchee, Wash.: Specialist in charge of federal investigations of the packaging of "frozen pack" of berries and other fruits, vegetables, etc.

Federal Trade Commission, Washington, D. C.:

Creator of the institution known as the Trade Practice Conference which is employed, on occasion, to bring about concert of action in an industry covering packaging practices. Data available on specific projects, for example, the recommendation to the spice trade of standard containers for retail units.

Forest Products Laboratory, Madison, Wis.: Operated by the Forest Service, U. S. Department of Agriculture, in cooperation with the University of Wisconsin. It has a division devoted to containers and has carried on, over a period of years, much valuable research on containers. The information obtainable at this source is not confined, as many business men have assumed, to wooden packages.

Freight Container Bureau, American Railway Association, 30 Vesey St., New York City: Has outlined, in a large number of publications, efficient and economical methods of packing and shipping various commodities. Concerns itself with crates and crating rather than with internal packing and packages but has also carried on some research work on inside containers, as, for instance, the study of cans for liquids, semi-liquids and pastes.

Glass Container Association of America, 19 West 44th St., New York City: Carries on a continuing program of research on the various classes of glass packages such as preserve glasses, drug and pharmaceutical bottles, cheese jars, etc.

Glazed and Fancy Paper Manufacturers' Association, 95 State St., Springfield, Mass., maintains a registration bureau of designs for such papers. Also maintains an inquiry service for customers and users.

Institute of American Meat Packers, 506 South Wabash Ave., Chicago, Ill.: Incident to the work of standardizing packs, the Institute has carried on a considerable amount of research on packages as, for example, lard cans, sausage and sliced bacon cartons, wrappers for smoked meats, and glass jars for vinegar-pickled products. Merchandising investigations conducted to ascertain necessity for changes in the size and weight of packs.

League for the Suppression of Design Piracy, Graybar Building, New York City: Includes among its objectives protection of package designs and has in hand evidence of evils of design invasion.

Library of Congress, Washington, D. C.: Has a fairly complete collection of books in English and foreign languages on packaging in all its branches, and bound volumes of periodicals devoted to the subject. The one best source of out-of-print publications. Volumes may not be withdrawn from the Library but may be consulted in the reading rooms and photostat copies obtained when circumstances warrant. U. S. Copyright Office, a branch of the Library, registers art subjects such as are employed in gift packaging.

Merchandising Research Division, Bureau of Foreign and Domestic Commerce, Washington, D. C.: The Costs and Operations Analysis Section has inaugurated, incident to general surveys of wholesale and retail distribution, a series of studies of packages and packaging practice. The current example is the study of proprietary packages, incident to the National Drug Store Survey made by the division.

Metropolitan Life Insurance Co., Policyholders' Service Bureau, 1 Madison Ave., New York: "The Use of Style and Design in Industry," and other reports touching packaging practices are published by the Division of Marketing and Distribution.

Modern Packaging, 425 Fourth Ave., New York City: Maintains a permanent exhibit of packages and packaging materials, together with photographs and catalogs of packaging equipment, general and specific packaging information, materials, etc.

National Alliance of Art and Industry, Inc., 30 Rockefeller Plaza, New York City: Maintains a library of design information and a laboratory for design experimentation and conducts a vocational guidance and placement service (maintained by the Art Alliance of America) for artists and designers.

National Association of Waste Material Dealers, Inc., Times Bldg., New York City: The salvage and reclamation division of this organization is a listening post for information on the salvage and reclamation of containers and materials.

National Bureau of Standards, Washington, D. C.: The principal Federal scientific laboratory, which serves the cause of progress in industry. Has the dual function of a research agency and official testing station for all branches of the national Government in examination of samples and verification of Departmental purchases. Scrutiny of packages, as such, is confined principally to the package standardization projects of the Division of Simplified Practice. Practical aid for packagers is contributed by numerous specialized studies of packaging materials, notably papers, inks, adhesives, etc. In 1933 major portion of the work on simplification and commercial standards was transferred to American Standards Association.

National Canners Association, 1739 H St., N. W., Washington, D. C.: Packaging is a major subject in the permanent program of this organization. Following the adoption of 27 standard sizes of cans, merchandising studies are in progress to ascertain the need of modifications or revisions of the package schedule.

National Cigar Box Manufacturers Association, 236 Chestnut St., Philadelphia, Pa.: Channel for informative contact with a highly specialized section of the container industries. Also sponsors the Wooden Cigar Box Boosters Club.

National Committee on Wood Utilization, Washington, D. C.: Has assembled and published data and suggestions on the re-use of wooden packages and the use of short-length lumber for package construction.

National Confectioners' Association, 111 W. Washington Street, Chicago, Ill.: Maintains a trade mark "search" service and has carried on research work on special aspects of packaging.

National Paint, Oil and Varnish Association, 2201 New York Avenue, N. W., Washington, D. C.: Maintains a trade mark bureau and committee on trade

marks which make indirect contact with packaging activities in the effort to prevent duplication of dress of goods within the industry.

National Paper Box Manufacturers Association, 802 Liberty Trust Building, Philadelphia, Pa.: Clearing house for information on set-up paper boxes.

National Paper Trade Association of the United States, 420 Lexington Ave., New York City: Contacts the packaging field via its research work on gummed tape, tissue papers, paper bags, etc.

New England Council, Statler Bldg., Boston, Mass.: Carries on a consistent campaign to encourage the packaging of farm products under the "New England Quality Label."

New York University, Washington Sq., New York City: Has conducted, in its Department of Marketing, comparative tests to ascertain consumer preferences for package design and package color. A typical test was that to measure the reaction of a representative cross-section of the public to several tentative designs for a new package for Wheatsworth Whole Wheat Crackers.

Package Manufacturers: All the leading manufacturers of packages are ready to place their facilities at the disposal of customers or prospective customers and to give the benefit of their experience in advice on package selection. A number of the package producers have service arrangements whereby their engineers, when made acquainted with the special requirements of a particular packer, will submit without obligation explicit suggestions for suitable packages or full-scale models of original package units.

Package Standardization Specialists: The U. S. Department of Agriculture has, in its Bureau of Agricultural Economics, specialists who are the best sources of information on all the phases of package standardization which embrace baskets, crates, boxes, barrels, sacks and other packages for fruits and vegetables.

Packaging Machinery Manufacturers Institute, Inc., 342 Madison Ave., New York: The official organization of the packaging equipment group.

Packaging Machinery Manufacturers: All the leading manufacturers of packaging and wrapping machinery, mechanical labelers, etc., are prepared and willing to give expert advice on questions of package policy which are dictated or influenced by considerations of weighing, sealing, handling, etc. Naturally, each individual machinery builder is best qualified to give advice on package designs and package construction that has in contemplation the employment of his particular machinery.

Packaging Section, Transportation and Communication Division of the Bureau of Foreign and Domestic Commerce, Washington, D. C.: The Commerce Department's agency for packing research and dissemination of information. Supposedly concerned primarily with packing (especially for overseas shipment) as distinguished from packaging, but nevertheless a valuable source of data for packagers. Most important contribution to date is a series (as yet uncompleted) of bulletins on the various types of packages entering domestic commerce. Bulletins are available on fibre containers, wooden boxes, wooden crates, plywood boxes, wire-bound boxes, nailed wooden crates, parcel post packages, etc.

Paper Bag Manufacturers Institute, 11 West 42nd St., New York City: Information bureau on the paper bag medium in general and particularly its later modifications such as the "window" bag, etc.

Paperboard Industries Association, 608 South Dearborn St., Chicago, Ill.: Program of work includes research and market studies in the field of packaging and container manufacture.

Plywood Box Manufacturers Association of America, 260 Tremont St., Boston, Mass.: Directory service to a section of the industry.

Don L. Quinn Company, 609 N. La Salle St., Chicago, Ill.: Maintains laboratory for box testing and container designing. Completely equipped with drum testers, compression testers and other necessary instruments used for such testing.

Railway Express Agency, Inc., New York City: Gives counsel to shippers or other interested parties on "good packing," "good wrapping" and "good marking." Specific rules or recommendations for eleven different classes of commodities.

Standard Container Manufacturers, Realty Bldg., Jacksonville, Fla.: Seeks to promote uniform customs, usages and standards for all fruit and vegetable packages, and carries on research in economies in manufacture of such products.

Steel Barrel Manufacturers Institute, Keith Bldg., Cleveland, Ohio: Research and tests necessary for recommendations for steel barrel drums, etc.

Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.: "Uncle Sam's mail order book store." Has for sale, at prices approximating cost of production, the various Government publications on packages and packaging, including the complete records of Congressional hearings on proposed packaging legislation.

Traffic, Receiving and Marking Group of the National Retail Dry Goods Association, 225 West 34th Street, New York City: Has assembled data on store packaging, etc. Has published reports on unit packing, shipping containers and store packing.

Wirebound Box Manufacturers Association, 111 West Washington St., Chicago, Ill.: Tests wire-bound boxes and designs new packages. Prepares specifications for styles of wooden wirewound boxes.

United Typothetae of America, 1200 Tower Bldg., Washington, D. C.: Deals with packages, incident to its research in the field of merchandise distribution and market analysis. Concerned especially with the various aspects of package printing.

U. S. Food and Drug Administration, Department of Agriculture, Washington, D. C.: The official agency for the enforcement of the Federal Food and Drug Act. Stands ready, in the position of counsellor, to advise packagers of food products on what constitutes "misbranding" and to indicate what policies in package

design will absolve packagers from any suspicion of "slack" packaging or "short" packaging. Illustrative of the practical research work of this regulatory institution is the comparative study of tea packages, undertaken to ascertain the comparative advantages and disadvantages of the different species of household packages for tea. This administration has, in its food control laboratory, a mineral water and beverage unit that is a source of information on the subject indicated.

United States Patent Office, Washington, D. C.: Supplies, on order by number, at a nominal price, printed copies of designated design patents covering packages, also mechanical patents covering package features with working arts, such as closures, etc. Accepts subscriptions for the delivery by mail of the weekly issues of the *Patent Office Gazette,* the official publication, which lists, illustrates and indexes the patents issued and trade marks registered, with the names of applicants. The *Gazette* likewise enumerates by title the package labels on which copyrights have been obtained at U. S. Patent Office.

The United States Printing & Lithograph Co., Cincinnati, Ohio: This house has a trade mark bureau which affords information and suggestion on the subject of packaging. In 1931, the company did important research on private brand packaging.

Wolf & Company, Department of Business Analysis, 1616 Walnut St., Philadelphia, Pa.: Has, of date of the past few years, a number of surveys and studies of packaging and kindred subjects, such as the "Analysis of the Set-Up Paper Box Manufacturing Industry," conducted for the National Paper Box Manufacturers Association and other organizations.

Wooden Box Bureau of the National Association of Wooden Box Manufacturers and National Lumber Manufacturers Association, Conway Building, Chicago, Ill.: Promotional work has included research on the development of small nailed wooden boxes.

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THE ARRANGEMENT of this, the eighth edition of the PACKAGING CATALOG has been planned for the convenience of the reader. In previous issues of the book, advertising pages have been separate from those of the editorial text, but the present issue combines both in a series of fifteen sections to which easy reference may be made by means of the separating markers.

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THE BUYERS DIRECTORY of the Packaging Industries (pages 15 to 38 incl.) lists all of the manufacturers of materials, supplies and equipment as well as agencies and individuals serving the field. These are grouped, alphabetically, under various headings. Names of advertisers are printed in bold face type, together with the page on which the advertisement or insert appears. By means of this reference, the corresponding addresses may be obtained. The information included in such listings is authentic to the best of our knowledge, having been supplied by those whose names appear.

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FOR PROPER USAGE of the book, it is suggested that the editorial text be supplemented by a careful reading of the advertisements, many of which elaborate upon the information given in the former, particularly as to sizes, specifications, etc. Paper and other samples included will be found of particular value in obtaining an understanding of such editorial references.

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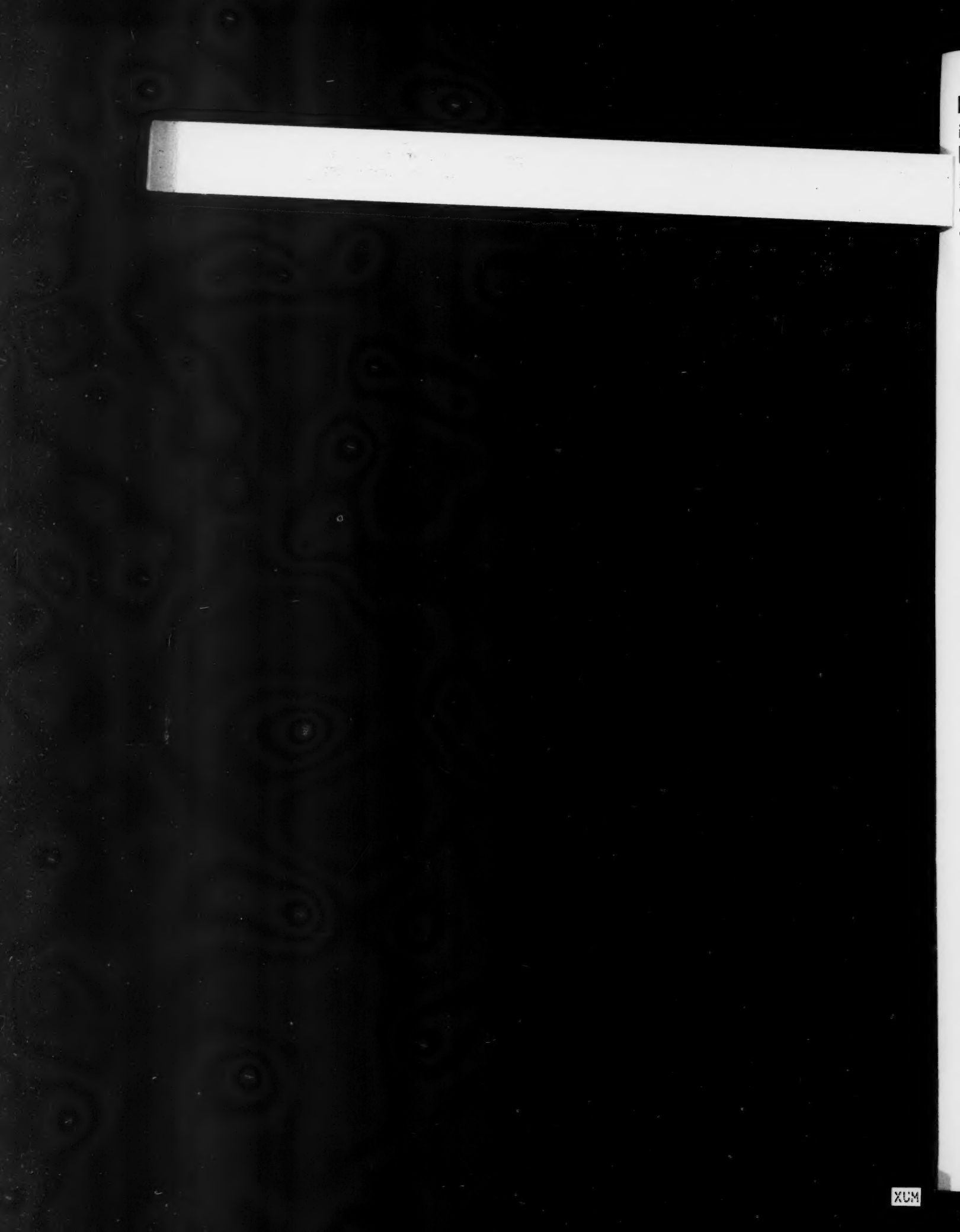

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Dobeckmun Co., The, Cleveland, O.—139
Jaite Co., The, Jaite, O.
Kimberly-Clark Corp., Neenah, Wis.—296-297
Lawrence Bag Co., The, Middletown, O.
Milprint Products Corp., Milwaukee, Wis.
Munson Bag Co., Cleveland, O.—113
National Metal Edge Box Co., Philadelphia, Pa.—61
Oneida Paper Products, Inc., Brooklyn, N. Y.
Paramount Paper Products Co., Inc., Philadelphia, Pa.
Royal Co., Thomas M., Philadelphia, Pa.—108-109
Shellmar Products Co., Chicago, Ill.—127
Sweetnam, Inc., George H., Cambridge, Mass.—301
Traver Corp., Chicago, Ill.
Union Bag & Paper Corp., New York, N. Y.
United States Envelope Co., Springfield, Mass.—115
Whiting-Patterson Co., Inc., Philadelphia, Pa.
Wolf Brothers, Philadelphia, Pa.
Wurzburg Bros, Memphis, Tenn.—Insert 218-219

BAGS, TRANSPARENT CELLULOSE (Plain & Printed)

Aldine Paper Co., New York, N. Y.—Insert 122-123
Allied Paper Bag Corp., Baltimore, Md.
American Paper Goods Co., Kensington, Conn.—105
Betner Co., Ben. C., Devon, Pa.—107
Bleyer & Co., Alfred, Brooklyn, N. Y.
Brown Paper Goods Co., Chicago, Ill.
Celloray Co., New York, N. Y.
Continental Paper & Bag Corp., New York, N. Y.
Dobeckmun Co., The, Cleveland, O.—139
Herz Co., Alexander, New York, N. Y.
Humitube Mfg. Co., Peoria, Ill.
Jaite Co., The, Jaite, O.
Mason Envelope Co., New York, N. Y.
Matthias Paper Corp., Philadelphia, Pa.—Insert 120-121
Milprint Products Corp., Milwaukee, Wis.
Munson Bag Co., Cleveland, O.—113
Newark Paraffine & Parchment Paper Co., Newark, N. J.
Oneida Paper Products, Inc., Brooklyn, N. Y.
Package Paper Co., Holyoke, Mass.
Print-A-Tube Co., Passaic, N. J.
Royal Co., Thomas M., Philadelphia, Pa.—108-109
Shellmar Products Co., Chicago, Ill.—127
Sweetnam, Inc., Geo., Cambridge, Mass.—301
Traver Corp., Chicago, Ill.
Union Bag & Paper Corp., New York, N. Y.
United States Envelope Co., Springfield, Mass.—115
Whiting-Patterson Co., Philadelphia, Pa.
Wolf Brothers, Philadelphia, Pa.
Wurzburg Bros, Memphis, Tenn.—Insert 218-219

BAGS, WAXED PAPER

Allied Paper Bag Corp., Baltimore, Md.
American Paper Goods Co., Kensington, Conn.—105
Betner Co., Ben. C., Devon, Pa.—107
Bleyer & Co., Alfred, Brooklyn, N. Y.
Brown Paper Goods Co., Chicago, Ill.
Central Waxed Paper Co., Chicago, Ill.
Continental Paper & Bag Corp., New York, N. Y.
Dixie Wax Paper Co., Inc., Dallas, Texas
Henle Wax Paper Mfg. Co., Inc., New York, N. Y.
Herz Co., Alexander, New York, N. Y.
Jaite Co., The, Jaite, O.
Lawrence Bag Co., The, Middletown, O.
Matthias Paper Corp., Philadelphia, Pa.
Munson Bag Co., Cleveland, O.—113
Newark Glassine Bag Co., Newark, N. J.
Oneida Paper Products, Inc., Brooklyn, N. Y.
Paramount Paper Products Co., Inc., Philadelphia, Pa.
Riegel Paper Corp., New York, N. Y.—Insert 136-137
Royal Co., Thomas M., Philadelphia, Pa.—108-109
Union Bag & Paper Corp., New York, N. Y.
United States Envelope Co., Springfield, Mass.—115
Wurzburg Bros, Memphis, Tenn.—Insert 218-219

BAGS, WINDOW

Allied Paper Bag Corp., Baltimore, Md.
Betner Co., Ben. C., Devon, Pa.—107
Continental Paper & Bag Corp., New York, N. Y.
Dobeckmun Co., The, Cleveland, O.—301
Jaite Co., The, Jaite, O.
Milprint Products Corp., Milwaukee, Wis.
Munson Bag Co., Cleveland, O.—113
Oneida Paper Products, Inc., Brooklyn, N. Y.
Royal Co., Thomas M., Philadelphia, Pa.—108-109
Shellmar Products Co., Chicago, Ill.—127
Union Bag & Paper Corp., New York, N. Y.
United States Envelope Co., Springfield, Mass.—115
Wurzburg Bros, Memphis, Tenn.—Insert 218-219

BALE TIES

Acme Steel Co., Chicago, Ill.—279
American Steel & Wire Co., Chicago, Ill.
Gerrard Co., Inc., Chicago, Ill.
Shelby Wire Co., Shelby, O.
Signode Steel Strapping Co., Chicago, Ill.
Stanley Works, New Britain, Conn.
Tennant & Sons, Inc., C. W., New York, N. Y.
Union Steel & Wire Co., Indianapolis, Ind.

BARREL HEAD LINERS

Angier Corp., Framingham, Mass.
Consolidated Paper Co., Monroe, Mich.
Edgewater Paper Co., Menasha, Wis.
Fort Orange Paper Co., Castleton-on-Hudson, N. Y.—95
Hinde & Dauch Paper Co., Sandusky, O.
Hummel & Downing Co., Milwaukee, Wis.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—125
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 126-127
Paterson Parchment Paper Co., Bristol, Pa.
Rexford Paper Co., Milwaukee, Wis.

Safepack Mills, Millis, Mass.
Sweetnam, Inc., George H., Cambridge, Mass.—301

BELTS, STEEL CONVEYOR (See Conveyors)

Acme Steel Co., Chicago, Ill.—279

BOTTLE PACKS, ENCLOSURES, TRAYS (Moulded Pulp)

Hole-Tite Packing Corp., New York, N. Y.
Keyes Fibre Container, Inc., Waterville, Me.
Moulded Pulp Corp., Chicago, Ill.
Owens-Illinois Glass Co., Toledo, O.—185-187
Pulp Products Co., New York, N. Y.
Traver Corp., Chicago, Ill.

BOTTLES, ALUMINUM

Aluminum Co. of America, Pittsburgh, Pa.—165
American Aluminum Ware Co., Newark, N. J.

BOTTLES, APPLIED COLOR

Hazel-Atlas Glass Co., Wheeling, W. Va.
Owens-Illinois Glass Co., Toledo, O.—185-187
Thatcher Mfg. Co., Elmira, N. Y.

BOTTLES, BEVERAGE

Buck Glass Co., Baltimore, Md.
Capstan Glass Co., Connellsville, Pa.—198-199
Chattanooga Glass Co., Chattanooga, Tenn.
Cunningham Glass Co., D. O., Pittsburgh, Pa.
Diamond Glass Co., Royersford, Pa.
Fairmont Glass Works, Indianapolis, Ind.
Glenshaw Glass Co., Glenshaw, Pa.
Hamilton Co., J. T. & A., Pittsburgh, Pa.
Hazel-Atlas Glass Co., Wheeling, W. Va.
Hemingray Glass Co., Muncie, Ind.
Laurens Glass Works, Laurens, S. C.
Maryland Glass Corp., Baltimore, Md.—Insert 192-193
Owens-Illinois Glass Co., Toledo, O.—185-187
Reed Glass Co., F. E., Rochester, N. Y.
Root Glass Co., Terre Haute, Ind.
Salem Glass Works, Salem, N. J.—198-199
Whitall-Tatum Co., Millville, N. J.
Wurzburg Bros, Memphis, Tenn.—Insert 218-219

BOTTLES, CELLULOID, TRANSPARENT, ODORLESS

Hygienic Tube & Container Co., Newark, N. J.—229
Lusteroid Container Co., Inc., South Orange, N. J.—241

BOTTLES, COLORED

Federal Glass Co., Columbus, O.—213
Maryland Glass Corp., Baltimore, Md.—Insert 192-193
Owens-Illinois Glass Co., Toledo, O.—185-187

BOTTLES, FANCY

Brockway Glass Co., Inc., Brockway, Pa.
Capstan Glass Co., Connellsville, Pa.—198-199
Carr-Lowrey Glass Co., Baltimore, Md.
Fairmont Glass Works, Inc., Indianapolis, Ind.
Foster-Forbes Glass Co., Marion, Ind.
General Glass Co., Lancaster, O.
Glenshaw Glass Co., Glenshaw, Pa.
Hamilton Co., J. T. & A., Pittsburgh, Pa.
Hart Glass Mfg. Co., Dunkirk, Ind.
Hazel-Atlas Glass Co., Wheeling, West Va.
Imperial Glass Corp., Chicago, Ill.
Latchford Glass Co., Huntington Park, Calif.
Maryland Glass Corp., Baltimore, Md.—Insert 192-193
Owens-Illinois Glass Co., Toledo, O.—185-187
Salem Glass Works, Salem, N. J.—198-199
Swindell Brothers, Baltimore, Md.
Wheaton Co., T. C., Millville, N. J.
Whitall-Tatum Co., Millville, N. J.
Wurzburg Bros., Memphis, Tenn.—Insert—218-219

BOTTLES, FOOD PACKING

Ball Bros., Muncie, Ind.
Brockway Glass Co., Inc., Brockway, Pa.
Capstan Glass Co., Connellsville, Pa.—198-199
Carr-Lowrey Glass Co., Baltimore, Md.
Fairmont Glass Works, Indianapolis, Ind.
Federal Glass Co., Columbus, O.—213
General Glass Co., Lancaster, O.
Glenshaw Glass Co., Glenshaw, Pa.
Hart Glass Mfg. Co., Dunkirk, Ind.
Hazel-Atlas Glass Co., Wheeling, W. Va.
Maryland Glass Corp., Baltimore, Md.—Insert 192-193
Olean Glass Co., Olean, N. Y.
Owens-Illinois Glass Co., Toledo, O.—185-187
Reed Glass Co., F. E., Rochester, N. Y.
Salem Glass Works, Salem, N. J.—198-199
Tygart Valley Glass Co., Washington, Pa.
Wurzburg Bros., Memphis, Tenn.—Insert—218-219

BOTTLES, MILK (Glass)

Buck Glass Company, Baltimore, Md.
Hamilton Co., J. T. & A., Pittsburgh, Pa.
Knox Glass Bottle Co., Knox, Pa.
Lamb Glass Co., Mt. Vernon, O.
Liberty Glass Co., Sapulpa, Okla.
Owens-Illinois Glass Co., Toledo, O.—185-187
Reed Glass Co., F. E., Rochester, N. Y.
Thatcher Mfg. Co., Elmira, N. Y.
Three Rivers Glass Co., Three Rivers, Texas
Universal Glass Products Co., Parkersburg, West Va.

BOTTLES, PAPER

American Can Co., New York, N. Y.
American Paper Bottle Co., Toledo, O.
Lily Tulip Cup Corp., New York, N. Y.
Mono Service Co., Newark, N. J.
National Folding Box Co., New Haven, Conn.
Purity Paper Vessels Co., The, Baltimore, Md.
Reed Container Corp., New York, N. Y.
Ritchie & Co., W. C., Chicago, Ill.—59
Russell Box Co., Medford, Mass.
Sealright Co., Inc., Fulton, N. Y.

BOTTLES, MOULDED PULP

Pulp Products Co., New York, N. Y.

BOTTLES, PROPRIETARY AND GENERAL

American Glass Works, Richmond, Va.
Brockway Glass Co., Inc., Brockway, Pa.
Capstan Glass Co., Connellsville, Pa.—198-199
Carr-Lowrey Glass Co., Baltimore, Md.
Fairmont Glass Works, Indianapolis, Ind.
Foster-Forbes Glass Co., Marion, Ind.
Gayner Glass Works, Salem, N. J.
General Glass Co., Lancaster, O.
Glenshaw Glass Co., Glenshaw, Pa.
Hagerty Bros. & Co., New York, N. Y.
Hamilton Co., J. T. & A., Pittsburgh, Pa.
Hart Glass Mfg Co., Dunkirk, Ind.
Hazel-Atlas Glass Co., Wheeling, West Va.
Kimble Glass Co., Vineland, N. J.—197
Knox Glass Bottle Co., Knox, Pa.
Maryland Glass Corp., Baltimore, Md.—Insert 192-193
Owens-Illinois Glass Co., Toledo, O.—185-187
Pennsylvania Glass Products Co., Pittsburgh, Pa.
Pierce Glass Co., Port Allegany, Pa.
Reed Glass Co., F. E., Rochester, N. Y.
Salem Glass Works, Salem, N. J.—198-199.
Swindell Brothers, Baltimore, Md.
Three Rivers Glass Co., Three Rivers, Texas.
Wheaton Co., T. C., Millville, N. J.
Whitall-Tatum Co., Millville, N. J.
Wurzburg Bros., Memphis, Tenn.—Insert—218-219

BOX BOARD, ASPHALT LINED

Consolidated Paper Co., Monroe, Mich.—305
Gair Co., Inc., Robt., New York, N. Y.
Sisalkraft Co., Chicago, Ill.

BOX BOARD, CLAY-COATED

American Coating Mills, Elkhart, Ind. & New York, N. Y.—71
Container Corp. of America, Chicago, Ill.
Fort Orange Paper Co., Castleton-on-Hudson, N. Y.—95
Lowe Paper Co., Ridgefield, N. J.—Insert 88-89
National Folding Box Co., New Haven, Conn.
Paper Affiliates Co., Inc., New York, N. Y.—141
United Paperboard Co., Inc., New York, N. Y.
Wabash Coating Mills, Wabash, Ind.

BOX BOARD, FOLDING

Alton Box Board & Paper Co., Alton, Ill.
American Coating Mills, Elkhart, Ind.—71
Artcote Papers, Inc., Irvington, N. J.
Consolidated Paper Co., Monroe, Mich.—305
Container Corp. of America, Chicago, Ill.
Coy, Hunt & Co., New York, N. Y.
Federal Paperboard Co., Inc., Bogata, N. J.
Fibreboard Products, Inc., San Francisco, Cal.
Fort Orange Paper Co., Castleton-on-Hudson, N. Y.—95
Gair Co., Robert, New York, N. Y.
Gardner-Richardson Co., Middletown, O.—68-69
Hinde & Dauch Paper Co., New York, N. Y., Boston, Mass., **Philadelphia, Pa.,** Baltimore, Md., Richmond, Va., Buffalo, N. Y., Cleveland, O., St. Louis, Mo., Kansas City, Kans., Toronto, Ont., Montreal, Que.
Lawless Bros. Paper Mills, East Rochester, N. Y.
Lowe Paper Co., Ridgefield, N. J.—Insert 88-89
Marathon Paper Mills, Rothschild, Wis.
Michigan Carton Co., Battle Creek, Mich.—85
Middlesex Products Co., Cambridge, Mass.—Insert 136-137

BUYERS DIRECTORY of the PACKAGING INDUSTRIES

National Folding Box Co., New Haven, Conn.
National Metal Edge Box Co., Philadelphia, Pa.—61
Ohio Boxboard Co., Rittman, O.
Paper Affiliates Co., Inc., New York, N. Y.—141
Republic Paperboard Co., Cincinnati, O.
Robertson Paper Box Co., Montville, Conn.
Schmidt & Ault Paper Co., York, Pa.
Stevens & Thompson Paper Co., New York, N. Y., North Housick, N. Y., Walloomsac, N. Y.
Sutherland Paper Co., Kalamazoo, Mich.
United Paperboard Co., Inc., New York, N. Y.

BOX BOARD, FOLDING, METALLIC COATED

Aldine Paper Co., New York, N. Y.—Insert 122-123
American Foil Corp., New York, N. Y.—Insert 122-123
Artcote Paper, Inc., Irvington, N. J.
Beveridge - Marvellum Co., Holyoke, Mass.—Insert 140-141
Coy, Hunt & Co., New York, N. Y.
Dennison Mfg. Co., Framingham, Mass.—Insert 72-73
Holyoke Coated & Printed Paper Co., New York, N. Y.
Hughes & Hoffman, New York, N. Y.
Lowe Paper Co., Ridgefield, N. J.—Insert 88-89
Marvellum Co., Holyoke, Mass.—Insert 144-145
Matthias Paper Corp., Philadelphia, Pa.—Insert 120-121
McLaurin-Jones Co., Brookfield, Mass.—Insert 142-143
Middlesex Products Co., Cambridge, Mass.—Insert 136-137
National Folding Box Co., New Haven, Conn.
New England Card & Paper Co., Springfield, Mass.
Paper Affiliates Co., Inc., New York, N. Y.—141
Reynolds Metals Co., Inc., New York, N. Y.—Insert 128-129
United Mfg. Co., The, Springfield, Mass.—Insert 138-139

BOX BOARD, SET-UP

Alton Box Board & Paper Co., Alton, Ill.
Butterfield-Barry Co., New York, N. Y.
Consolidated Paper Co., Monroe, Mich.—305
Container Corp. of America, Chicago, Ill.
Continental Paper Co., Bogota, N. J.
Downingtown Paper Co., Downingtown, Pa.
Fibreboard Products, Inc., San Francisco, Cal.
Fleming & Sons, Inc., Dallas, Texas.
Fort Orange Paper Co., Castleton-on-Hudson, N. Y.—95
Franklin Board & Paper Co., Franklin, O.
Gair Co., Robt., New York, N. Y.
Lawless Bros. Paper Mills, East Rochester, N. Y.
McEwans & Sons, R. B., Whippany, N. J.
National Folding Box Co., New Haven, Conn.
Paper Affiliates Co., Inc., New York, N. Y.—141
Republic Paperboard Co., Cincinnati, O.
Sutherland Paper Co., Kalamazoo, Mich.
United Paperboard Co., Inc., New York, N. Y.

BOX LACES

American Lace Paper Co., Milwaukee, Wis.
Matthias Paper Corp., Philadelphia, Pa.—Insert 120-121
Milwaukee Lace Paper Co., Milwaukee, Wis.
Sayford Co., Inc., Frank M., Brooklyn, N. Y.
U. S. Lace Paper Works, Brooklyn, N. Y.

BOX REINFORCEMENT (Flat Strapping-Wire)

Acme Steel Co., Chicago, Ill.—279
American Steel & Wire Co., Chicago, Ill.
Gerrard Co., Inc., Chicago, Ill.
Parker Machine Works, Riverside, Cal.
Seneca Wire & Mfg. Co., Fostoria, O.
Signode Steel Strapping Co., Chicago, Ill.
Stanley Works, New Britain, Conn.
Tennant Sons & Co., C., New York, N. Y.

BOX RIBBONS (Ties, Tinsel, etc.)

Adirondack Tinsel Co., Hudson Falls, N. Y.
Ben-Mont Fancy Papers, Inc., Bennington, Vt.—135
Chicago Printed String Co., Chicago, Ill.—309
Dennison Mfg. Co., Framingham, Mass.—Insert 72-73
Du-Tone Ribbon Corp., New York, N. Y.—317
Freydberg Bros., Inc., New York, N. Y.—313.
Hy-Sil Mfg. Co., Revere, Mass.
Milwaukee Printed String Co., Milwaukee, Wis.
National Tinsel Mfg. Co., Manitowoc, Wis.
Stark Bros. Ribbon Corp., New York, N. Y.
Taft Co., R. C., Chicago, Ill.
Walser Mfg. Co., Inc., Clifton, N. J.
W-E-R Ribbon Corp, New York, N. Y.

BOX STAYS (White, Gray, Plain & Creased)

Knowlton Co., M. D., Rochester, N. Y.—396-397
Matthias Paper Corp., Philadelphia, Pa.—Insert 120-121
McLaurin-Jones Co., Brookfield, Mass.—Insert 142-143
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 126-127

BOX TOP PADDING

American Lace Paper Co., Milwaukee, Wis.
Kimberly-Clark Corp., Neenah, Wis.—296-297
Milwaukee Lace Paper Co., Milwaukee, Wis.
Traver Corp., Chicago, Ill.
Union Wadding Co., Pawtucket, R. I.

BOX WRAPS

See Lithographers and various paper headings

BOXES, CELLULOID, ODORLESS

Celluloid Corp., New York, N. Y.—121
Hygienic Tube & Container Co., Newark, N. J.—229
Lusteroid Container Co., Inc., South Orange, N. J.—241
See-Thru Container Corp., New York, N. Y.
Sillcocks-Miller Co., South Orange, N. J.—241

BOXES, CLOTHING and MILLINERY

Acme Folding Box Co., St. Louis, Mo.
American Paper Box Co., Grand Rapids, Mich.
Bartgis Bros. Co., Ilchester, Md.
Blum Folding Paper Box Co., Inc., Brooklyn, N. Y.
Brown & Bailey Co., Philadelphia, Pa.
Climax Mfg. Co., Castorland, N. Y.
Elkin Mfg. Co., Philadelphia, Pa.
Fibreboard Products, Inc., San Francisco, Cal.
Fort Orange Paper Co., Castleton-on-Hudson, N. Y.—95
Gardner-Richardson Co., Middletown, O.—68-69
Lindley Box & Paper Co., Marion, Ind.
Morris Paper Mills, Chicago, Ill.
Natick Box & Board Co., Natick, Mass.
National Folding Box Co., New Haven, Conn.
National Metal Edge Box Co., Philadelphia, Pa.—61
Simplex Paper Box Corp., Lancaster, Pa.—89
Spear Box Co., New York, N. Y.
Trinity Paper Box Co., Dallas, Tex.

BOXES, CORRUGATED and SOLID FIBRE

Acme Staple Co., Camden, N. J.—280
Agar Manufacturing Corp., Whippany, N. J.
Albany Corrugated Container Corp., Albany, N. Y.
American Can Co., New York, N. Y.
American Corrugated Paper Products Corp., New York, N. Y.
American Corrugating Co., Grand Rapids, Mich.
Andrew Co., O. B., Chattanooga, Tenn.
Ashtabula Corrugated Box Co., Ashtabula, O.
Bird & Son, Inc., East Walpole, Mass.
Brack Container Corp., Rochester, N. Y.
Consolidated Paper Co., Monroe, Mich.—305
Container Corp. of America, Chicago, Ill.
Corning Fibre Box Corp., The, Corning, N. Y.
Corrugated Container Co., Philadelphia, Pa.
Corrugated Container Corp., Columbus, O.
Crescent Box Corp., Philadelphia, Pa.
Densen-Banner Co., Inc., New York, N. Y.
Dexter Folder Co., New York, N. Y.—283-288, 355-364
Eggers-O'Flying Co., Omaha, Neb.
Evans Fibre Box Co., Chicago, Ill.
Federal Container Co., Philadelphia, Pa.
Fibreboard Products, Inc., San Francisco, Cal.
Florida Container Corp., Tampa, Fla.
Fort Wayne Corrugated Paper Co., Fort Wayne, Ind.
Gair Co., Robert, New York, N. Y.
Gardner-Richardson Co., The, Middletown, O.—68-69
Gaylord, Inc., Robert, St. Louis, Mo.
Hercules Paper Box Co., Columbus, O.
Hinde & Dauch Paper Co., New York, N. Y., Boston, Mass., Philadelphia, Pa., Baltimore, Md., Richmond, Va., Buffalo, N. Y., Cleveland, O., St. Louis, Mo., Kansas City, Kansas, Toronto, Ont., Montreal, Que.
Hummel & Downing Co., Milwaukee, Wis.
Hunt-Crawford Co., The, Coshocton, O.
Inland Box Corp., Indianapolis, Ind.
Iowa Fibre Box Co., Keokuk, Iowa
Kieckhefer Container Corp., Milwaukee, Wis.
Knowlton, M. D., Co., Rochester, N. Y.—396-397

For information concerning equipment listed below, see catalog pages indicated by numbers appearing after advertisers' listings

BUYERS DIRECTORY of the PACKAGING INDUSTRIES

Kress Box Co., F. J., Pittsburgh, Pa.
Mengel Co., Louisville, Ky.
National Container Corp., Long Island City, N. Y.
National Metal Edge Box Co., Philadelphia, Pa.—61
New Orleans Corrugated Box Co., Inc., New Orleans, La.
Ottawa River Paper Co., Toledo, O.
Owens-Illinois Glass Co., Toledo, O.—185-187
Paraffine Co., The, Inc., San Francisco, Cal.
River Raisin Paper Co., Monroe, Mich.
Rochester Folding Box Co., The, Rochester, N. Y.
Rockford Fibre Container Co., Rockford, Ill.
Schmidt Lithograph Co., San Francisco, Cal.
Schultz Co., A. Geo., Milwaukee, Wis.
Southern Container Co., Houston, Texas
Texas Corrugated Box Co., Dallas, Texas
Wabash Fibre Box Co., Terre Haute, Ind.
Waldorf Paper Products Co., St. Paul, Minn.
Warner Bros. Co., Bridgeport, Conn.—81
Weber & Co., David, Philadelphia, Pa.

BOXES, FANCY WOOD

Aman & Sandmann Box & Lumber Co., Cinn., O.—321
American Art Works, The, Coshocton, O.
Arrow Mfg. Co., Inc., Hoboken, N. J.—93
Artwood Products Co., Terre Haute, Ind.
Dennison Mfg. Co., Framingham, Mass.—Insert 72-73
Mele Mfg. Co., New York, N. Y.
Nalco, Inc., New York, N. Y.—141
New England Box Co., Greenfield, Mass.
Ornamental Wood Packaging Co., Chicago, Ill.
Peterson Bros., Chicago, Ill.—315
Pilliod Cabinet Co., The, Swanton, O.—311
Ruechert Mfg. Co., Providence, R. I.—319
Warner Bros. Co., Bridgeport, Conn.—81
Young Bros., Inc., Providence, R. I.—87

BOXES, FOLDING and DISPLAY CARTONS

Ace Carton Corp., Chicago, Ill.
Acme Folding Box Co., New York, N. Y.
Albert Paper Box Co., Inc., Brooklyn, N. Y.
American Colortype Co., Chicago, Ill.
American Coating Mills, Inc., New York, N. Y., & Elkhart, Ind.—71
American Folding Box Co., St. Louis, Mo.
Atlantic Carton Corp., Norwich, Conn.
Badger Carton Co., Milwaukee, Wis.
Bloomer Bros. Co, Newark, Wayne County, N. Y.
Blum Folding Paper Box Co., Inc., Brooklyn, N. Y.
Brooklyn Carton Co., Inc., Brooklyn, N. Y.
Brooks Bank Note Co., Springfield, Mass.
Brooks & Porter, Inc., New York, N. Y.
Brown & Bailey Co., Philadelphia, Pa.
Burt & Fletcher Co., Kansas City, Mo.
Cambridge Paper Box Co., Cambridge, Mass.
Campbell Box & Tag Co., South Bend, Ind.
Chicago Carton Co., Chicago, Ill.
Chippewa Paper Products, Inc., Chicago, Ill.
Consolidated Paper Co., Monroe, Mich.—305
Container Corp. of America, Chicago, Ill.
Continental Folding Paper Box Co., Ridgefield, N. J.
Crook Paper Box Co., Kansas City, Mo.
Crown Paper Box & Label Co., San Antonio, Texas
Densen-Banner Co., Inc., New York, N. Y.
Deisroth Co., Inc., W. H., Philadelphia, Pa.—99
Dennison Mfg. Co., Framingham, Mass.—Insert 72-73
Dodge Paper Box Co., E. F., Leominster, Mass.
Dowd Carton Co., M. S., Hartford, Conn.
Downingtown Paper Box Co., Downingtown, Pa.
Einson-Freeman Co., Inc., Long Island City, N. Y.
Empire Box Corp., New York, N. Y.
Fibreboard Products, Inc., San Francisco, Cal.
General Carton Corp., Brooklyn, N. Y.
Fitzhugh, Inc., Wm. W., Brooklyn, N. Y.
Fitzhugh-New Haven Corp., New Haven, Conn.
Forbes Litho. Mfg. Co., Boston, Mass.—143
Fort Orange Paper Co., Castleton on Hudson, N. Y.—95
Fort Wayne Paper Goods Co., Fort Wayne, Ind.
Fox Co., C. J., Providence, R. I.
Gair Co., Robert, New York, N. Y.
Gardner-Richardson Co., Middletown, O.—68-69
Gebhart Folding Box Co., Dayton, O.
General Carton Corp., Lowell, Mass.
Gereke-Allen Carton Co., St. Louis, Mo.
Hinde & Dauch Paper Co., Sandusky, O.
Howell & Co., F. M., Elmira, N. Y.
Hummel & Downing Co., Milwaukee, Wis.
Indianapolis Paper Container Co., Indianapolis, Ind.
Industrial Packaging Co., Long Island City, N. Y.
International Folding Paper Box Co., Inc., North Bergen, N. J.
International Printing Co., Indianapolis, Ind.
Interstate Folding Box Co., Middletown, O.
Koehl Co., Wm., The, Cincinnati, O.
Lebanon Paper Box Co., Lebanon, Pa.—77
Lord Baltimore Press, Baltimore, Md.
Lowe Paper Co., Ridgefield, N. J.—Insert 88-89
Menasha Products Co., Menasha, Wis.
Michigan Carton Co., Battle Creek, Mich.—85
Milprint Products Corp., Milwaukee, Wis.
Morris Paper Mills, Chicago, Ill.
Myers, Inc., J. & P. B., Jersey City, N. J.
National Folding Box Co., New Haven, Conn.
National Metal Edge Box Co., Philadelphia, Pa.—61
New York Label & Box Corp., New York, N. Y.
Paper Package Co., Indianapolis, Ind.
Pictorial Paper Package Corp., Aurora, Ill.
Randolph Box & Label Co., Chicago, Ill.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 128-129
Richardson-Taylor-Globe Corp., Cincinnati, O.—67
Robertson Paper Box Co., Inc., Montville, Conn.
Rochester Folding Box Co., Rochester, N. Y.
Rossetti Lithographing Co., New York, N. Y.
Russell Box Co., Medford, Mass.
Sample-Durick Co., Indian Orchard, Mass.
Schmitt, Geo. & Co., Inc., Brooklyn, N. Y.
Schultz Co., A. Geo., Milwaukee, Wis.
Shoup-Owens, Inc., Hoboken, N. J.—Insert 64-65
Shuttleworth Carton Co., Inc., New York, N. Y.
Simplex Paper Box Corp., Lancaster, Pa.—89
Somerville Paper Boxes, Ltd., London, Ontario, Canada
Stecher-Traung Lithograph Corp., Rochester, N. Y.
Stecker Paper Box Co., Detroit, Mich.
Superior Folding Box Co., St. Louis, Mo.
Sutherland Paper Co., Kalamazoo, Mich.
Trenton Folding Box Co., Trenton, N. J.
Trinity Paper Box Co., Dallas, Tex.
U. S. Printing & Litho. Co., Cincinnati, O., Baltimore, Md., New York, N. Y.—Insert 96-97
Universal Folding Box Co., Brooklyn, N. Y.
Waldorf Paper Products Co., St. Paul, Minn.
Warner Bros. Co., Bridgeport, Conn.—81
Whitney & Co., Inc., Leominster, Mass.
Wilkata Folding Box Co., Kearny, N. J.
Wolverine Carton Co., Grand Rapids, Mich.
Wurzburg Bros., Memphis, Tenn.—Insert 218-219

BOXES, MAILING

American Coating Mills, Inc., New York, N. Y., & Elkhart, Inc.—71
Brown & Bailey, Philadelphia, Pa.
Cambridge Paper Box Co., Cambridge, Mass.
Campbell Box & Tag Co., South Bend, Ind.
Chicago Carton Co., Chicago, Ill.
Cleveland Container Co., Cleveland, O.—177
Consolidated Paper Co., Monroe, Mich.—305
Container Corp. of America, Chicago, Ill.
Cross Paper Products Corp., New York, N. Y.
Deisroth Co., Inc., W. H., "Kwicklasp," Philadelphia. Pa.—99
Dennison Mfg. Co., Framingham, Mass.—Insert 72-73
Dodge Paper Box Co., E. F., Leominster, Mass.
Fort Orange Paper Co., Castleton-on-Hudson, N. Y.—95
Fort Wayne Paper Goods Co., Fort Wayne, Ind.
Fox Co., C. J., Providence, R. I.
Gair Co., Robert, New York, N. Y.
Gardner-Richardson Co., Middletown, O.—68-69
Gates Paper Co., Ltd., Los Angeles, Cal.
Gaylord, Inc., Robert, So. Louis, Mo.
Gebhart Folding Box Co., Dayton, O.
Gereke-Allen Carton Co., St. Louis, Mo.
Hercules Paper Box Co., Columbus, O.
Hinde & Dauch Paper Co., The, New York, N. Y., Boston, Mass., Philadelphia, Pa., Baltimore, Md., Richmond, Va., Buffalo, N. Y., Cleveland, O., St. Louis, Mo., Kansas City, Kans., Toronto, Ont., Montreal, Que.
Howell Co., F. M., Elmira, N. Y.
International Folding Paper Box Co., Inc., North Bergen, N. J.
Interstate Folding Box Co., Middletown, O.
Lebanon Paper Box Co., Lebanon, Pa.—77

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Lord Baltimore Press, Baltimore, Md.
Mason Box Co., The, Attleboro Falls, Mass.—91
Michigan Carton Co., Battle Creek, Mich.—85
Myers, Inc., J. & P. B., Jersey City, N. J.
National Folding Box Co., New Haven, Conn.
National Metal Edge Box Co., Philadelphia, Pa.—61
New York Label & Box Corp., New York, N. Y.
Owens-Illinois Glass Co., Toledo, O.—185-187
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R. C. Can Co., St. Louis, Mo.—173
Richardson-Taylor-Globe Corp., Cincinnati, O.—67
Ritchie & Co., W. C., Chicago, Ill.—59
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Sample-Durick Co., Indian Orchard, Mass.
Schultz Co., A. Geo., Milwaukee, Wis.
Sears Paper Box Co., Merle, Danville, Ill.
Sefton National Fibre Can Co., St. Louis, Mo.—167
Shoup-Owens, Inc., Hoboken, N. J.—Insert 64-65
Shuttleworth Carton Co., Inc., New York, N. Y.
Simplex Paper Box Corp., Lancaster, Pa.—89
Somerville Paper Boxes, Ltd., London, Ont., Canada
U. S. Printing & Litho. Co., Cincinnati, O.—Insert 96-97
Warner Bros. Co., Inc., Bridgeport, Conn.—81
Waterbury Paper Box Co., Waterbury, Conn.—75
Whitney & Co., Inc., Leominster, Mass.
Wurzburg Bros., Memphis, Tenn.—Insert 218-219
Young Bros., Providence, R. I.—87

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American Aluminum Ware Co., Newark, N. J.
American Can Co., New York, N. Y.—168-169
Anchor Cap & Closure Corp., Long Island City, N. Y.—198-199
Burdick & Son, Albany, N. Y.—171
Chase Brass & Copper Co., Inc., Container & Closure Division, New York, N. Y. (Powder, Rouge, Lipsticks, Compacts)
Continental Can Co., Inc., New York, N. Y.—Insert 176-177
Dennison Mfg. Co., Framingham, Mass. —Insert 72-73
Doehler Die Casting Co., Toledo, O.
Farrington Mfg. Co., Jamaica Plain, Boston, Mass.
Goertz & Co., A., Newark, N. J.
Heekin Can Co., Cincinnati, O.
Kep-Ark, Inc., Boston, Mass.
Majestic Metal Specialties, Inc., New York, N. Y.
Metal Litho. Corp., Brooklyn, N. Y.—179
National Can Co., Inc., New York, N. Y. —181
Scovill Manufacturing Co., Waterbury, Conn.
Tin Decorating Co. of Baltimore, The, Baltimore, Md.—175
Wurzburg Bros., Memphis, Tenn.—Insert 218-219

BOXES, METAL (Covered and Lined)

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Dennison Mfg. Co., Framingham, Mass. —Insert 72-73
Farrington Mfg. Co., Jamaica Plain, Boston, Mass.

BOXES, MOLDED (Plastic)

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American Insulator Corp., New Freedom, Pa.
American Record Corp., Scranton, Pa. —247
Armstrong Cork & Insulation Co., Lancaster, Pa.—204-205
Auburn Button Works, Inc., Auburn, N. Y.—245
Bakelite Corp., New York, N. Y.—255
Boonton Molding Co., Boonton, N. J.—259
Celluloid Corp., New York, N. Y.—121
Chicago Molded Products Corp., Chicago, Ill.—249
Colt's Patent Fire Arms Mfg. Co., Hartford, Conn.—269
Diemolding Corp., Canastota, N. Y.—257
Durite Plastics, Division of Stokes & Smith Co., Philadelphia, Pa.—350-351, 369
General Electric Co., Plastics Dept., River Works, West Lynn, Mass. (Textolite, Cetec, Fabroil, Glyptal)
General Industries Co., The, Elyria, O.
General Plastics, Inc., North Tonawanda, N. Y.—251
Kurz-Kasch Co., Dayton, O.—265
Mack Molding Co., Wayne, N. J.—271
Mundet Cork Corp., Brooklyn, N. Y.—207
Northern Industrial Chemical Co., Boston, Mass.
Norton Laboratories, Inc., Lockport, N. Y.
Reilly Tar & Chemical Corp., Indianapolis, Ind.—267
Resinox Corp., New York, N. Y.—253
Reynolds Spring Co., Jackson, Mich.
Shaw Insulator Co., Irvington, N. J.
Synthetic Plastics, Inc., New York, N. Y.
Tech-Art Plastics Co., Long Island City, N. Y.
Toledo Synthetic Products, Inc., Toledo, O.
Waterbury Button Co., The, Waterbury, Conn.—263
Wheeling Stamping Co., Wheeling, W. Va.—233

BOXES, MOULDED PULP

Pulp Products Co., New York, N. Y.

BOXES, PAPER SET-UP

Letters indicate general class of boxes manufactured:
A—Covering Machine-made Boxes.
B—Automatic Machine-made Boxes.
C—Hand-made Boxes.
D—Hand-made and Machine-made Boxes.
g.l.—Indicates manufacture of general line of boxes in the class specified, except certain types which are specialties or specialized in, such as Candy, Holiday, Face Powder, Perfumery, Carbon Paper, Jewelry, Cases and Shelf Boxes, Hinged Lid and Display, Slide Boxes, Cigarette Boxes, Mailing Boxes and special small boxes. These are indicated by name.

Alderman Paper Box Co., Rochester, N. Y.
A, B, C and D, g.l.

Aman & Sandmann Box & Lumber Co., Cincinnati, O.—321
Wood, Leather, Cloth Covered
Arrow Mfg. Co., Inc., Hoboken, N. J.—93
C, Jewelry, Specialties, g.l. Metal, Satin lined, Wood, Leather, Paper
Bisler, Inc., G. A., Philadelphia, Pa.—73
A, B, C, and D, candy and holiday
Bristol Paper Box Co., Bristol, Va.
A, g.l.
Buedingen Co., Inc., Ferdinand, Rochester, N. Y.—65
A, C and D, g.l.
Buedingen & Son, Wm., Rochester, N. Y.—83
Buffington Co., F. H., Providence, R. I.
A, g.l.
Burt Co., Ltd., F. N., Buffalo, N. Y.—63
A, B, C, and D, face powder, perfumery, pill and drug, slide boxes, cigarette boxes
Cambridge Paper Box Co., Cambridge, Mass.
A, B, C, D, g.l. face powder, perfumery, pill and drug, slide, cigarette, candy, mailing
Campbell Box & Tag Co., South Bend, Ind.
Casselman, T. & E., Inc., New York, N. Y.
A, B, C, D, g.l.
Chippewa Paper Products, Inc., Chicago, Ill.
Danbury Square Box Co., The, Danbury, Conn.
A, C and D, g.l.
Deisroth Co., Inc., W. H., Philadelphia, Pa.—99
A, B, C, D, g.l., candy, holiday, "Kwicklasp" mailing
Dennison Mfg. Co., Framingham, Mass. —Insert 72-73
D—complete line of all types and specialties
Dix, Inc., J. J., New York, N. Y.
Dodge Paper Box Co., E. F., Leominster, Mass.
C, D, g.l.
Doolittle Co., The, E. J., Meriden, Conn.
A, C and D, g.l.
Dorfman & Co., Inc., A., New York, N. Y.
Du-Frank Corp., Brooklyn, N. Y.
Fairchild Corp., E. E., Rochester, N. Y.
A, B, C and D, g.l.
Fisher Paper Box Co., Inc., Minneapolis, Minn.
A, B, C and D, g.l.
Fleisig, Inc., H., New York, N. Y.
Fort Wayne Paper Box Co., Fort Wayne, Ind.
A, B, C and D, g.l.
Gates Paper Co., Ltd., Los Angeles, Cal.
Grand Rapids Paper Box Co., Grand Rapids, Mich.
A, B, C and D, g.l.
Great Lakes Paper Box Co., The, Cleveland, O.
Henry Co., Ira L., Watertown, Wis.
A, C and D, g.l.
Hess & Densen, Inc., New York, N. Y.
A, B, C, D
Hollywood Paper Box Corp., Hollywood, Cal.
A, B and D, g.l.
Holman Paper Box Co., St. Louis, Mo.
A, B and D, g.l.
Howell & Co., F. M., Elmira, N. Y.
A, B and D, g.l.
Illinois Paper Box Co., Chicago, Ill.
A, C and D, g.l.
Illinois-Star-Schulz Paper Box Co., Chicago, Ill.

XUM

Jones Paper Box Co., Jesse, Philadelphia, Pa.
A, B, C and D, g.l.
Just Mfg. Co., The, Brooklyn, N. Y.
A, D
Kalamazoo Paper Box Co., Kalamazoo, Mich.
A, B, C and D, g.l.
Kentucky Paper Box Co., Inc., Louisville, Ky.
A, B, C and D, g.l.
Keystone Box Co., Pittsburgh, Pa.
A, B, C and D, g.l.
Killian Co., George P., Washington, D. C.
A, B, C and D, g.l.
Klein & Co., A., New York, N. Y.
Candy
Koehl Co., Wm., Cincinnati, O.
A, B, C and D, g.l.
Kroeck Paper Box Co., Chicago, Ill.
A, g.l.
Landowne Co., J., Inc., Brooklyn, N. Y.
D, g.l.
Lebanon Paper Box Co., Lebanon, Pa.—77
A, B, C, and g.l., Mitre Cigar Boxes
Lorscheider-Schang Co., Rochester, N. Y.
A, B, C and D, g.l.
Maryland Paper Box Co., Baltimore, Md.
A, B, D, g.l., Holiday, shelf
Mason Box Co., The, Attleboro Falls, Mass.—91
A, B, C and D, g.l.
Miller, W. P., Inc., Philadelphia, Pa.
A, B, C and D, g.l.
Molitor Box Co., Milwaukee, Wis.
A, B, C and D, g.l.
Nalco, Inc., New York, N. Y.—321
Wood & Cloth Covered
National Folding Box Co., New Haven, Conn.
National Metal Edge Box Co., Philadelphia, Pa.—61
Neumann Co., The Robert, Cincinnati, O.
A, C and D, g.l.
New York Label & Box Corp., New York, N. Y.
A, B, g.l., pill and drug
Norristown Box Co., Norristown, Pa.
A and B, g.l.
Ohio Boxboard Co., Cleveland, Ohio
A, B, C and D, g.l.
Oklahoma Paper Co., Oklahoma City, Okla.
Paper Package Co., Indianapolis, Ind.
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Perfumers & Jewelers Box Co., New York, N. Y.
A, B, C and g.l.
Pharmacy Paper Box Co., Chicago, Ill.
A, B and C
Pictorial Paper Package Co., Aurora, Ill.
A, B, C and D, g.l.
Plumly, E. K., Philadelphia, Pa.
D, g.l., Perfume
Randolph Paper Box Co., Richmond, Va.
A, B and D, g.l.
Rapid Cutting Die Co., Brooklyn, N. Y.
A, B, g.l.
Ritchie & Co., W. C., Chicago, Ill.—59
A, B, C and D, g.l.
Rowell Co., Inc., E. N., Batavia N. Y.—97
A, B and D, g.l.
Schleicher Paper Box Co., F. J., St. Louis, Mo.
B, C and D, candy
Schoettle Co., Edwin J., Philadelphia, Pa.
A, B, C and D, g.l.
Schultz & Co., H., Chicago, Ill.
A, B, C and D, g.l.
Schultz Co., A. Geo., Milwaukee, Wis.
A, B, C and D, g.l.
Sears Paper Box Co., Merle, Danville, Ill.
A, B, C and D, g.l.
Seeley Tube & Box Co., Newark, N. J.
A, B and D, g.l.
Shoup-Owens, Inc., Hoboken, N. J.—Insert 64-65
A, B, C and D, g.l.
Simplex Paper Box Corp., Lancaster, Pa.—89
A, B, C and D, g.l.
Smith Co., S. K., Chicago, Ill.—79
Somerville Paper Boxes, Ltd., London, Ontario
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A, B
Star Case Co., New York, N. Y.
C, Jewelry, Specialties, Leather
Stecker Paper Box Co., Detroit, Mich.
Trilsch Co., Oscar, Whitestone, Long Island, N. Y.
A, B, C, g.l.
Trinity Paper Box Co., Dallas, Tex.
Trum, Inc., E. J., Brooklyn, N. Y.
A and D, g.l.
United Paper Box Co., Chicago, Ill.
Voss Corp., Karl, 1100 Adams St., Hoboken, N. J.—101
Face Powder, perfumery, C, g.l.
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A, B, C and D, g.l.
Warner Bros. Co., Bridgeport, Conn.—81
A, B, C and D
Waterbury Paper Box Co., Waterbury, Conn.—75
A, B, C and D, g.l.
Whitney & Co., Inc., Leominster, Mass.
A, B, C, D, g.l.
Wing Paper Box Co., Hendersonville, N. C.
g.l.
Wurzburg Bros., Memphis, Tenn.—Insert 218-219
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Youse, C. J., Co., Baltimore, Md.
A, B, C and D, candy

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Atlantic Carton Corp., Norwich, Conn.
Brooks & Porter, Inc., New York, N. Y.
Burt Co., Ltd., F. N., Buffalo, N. Y.—63
Cambridge Paper Box Co., Cambridge, Mass.
Campbell Box & Tag Co., South Bend, Ind.
Container Corp. of America, Chicago, Ill.
Deisroth Co., Inc., W. H., Philadelphia, Pa.—99
Dennison Mfg. Co., Framingham, Mass.—Insert 72-73
Empire Box Corp., Chicago, Ill.
Fort Orange Paper Co., Castleton-on-Hudson, N. Y.—95
Gair Co., Robert, New York, N. Y.
Hatch Co., C. F., Lowell, Mass.
Howell Co., F. M., Elmira, N. Y.
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Interstate Folding Box Co., Middletown, O.
Jaite Co., The, Jaite, O.
Lebanon Paper Box Co., Lebanon, Pa.—77
Milprint Products Corp., Milwaukee, Wis
National Metal Edge Box Co., Philadelphia, Pa.—61
Richardson-Taylor-Globe Corp., Cincinnati, O.—67
Ritchie & Co., W. C., Chicago, Ill—59
Rowell Co., E. N., Batavia, N. Y.—97
Russell Box Co., Medford, Mass.
Shoup-Owens, Inc., Hoboken, N. J.—Insert 64-65
Stecher-Traung Litho. Corp., Rochester, N. Y.
Voss Corp., Karl, Hoboken, N. J.—101
Warner Bros., Bridgeport, Conn—81
Waterbury Paper Box Co., Waterbury, Conn.—75
Whitney & Co., Inc., Leominster, Mass.

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Container Corp. of America, Chicago, Ill.
Dexter Folder Co., New York, N. Y.—283-288, 355-364
Empire Box Corp., Chicago, Ill.
Fibreboard Products, Inc., San Francisco, Cal.
Gair Co., Robert, New York, N. Y.
Gardner-Richardson Co., Middletown, O.—68-69
Gaylord Co., Robert, St. Louis, Mo.
Hinde & Dauch Paper Co., St. Louis, Mo., Kansas City, Kansas, Toronto, Ont., Montreal, Que.
Hummel & Downing Co., Milwaukee, Wis.
Morris Paper Mills, Chicago, Ill.
National Metal Edge Box Co., Philadelphia, Pa.—61
River Raisin Paper Co., Monroe, Mich.
Rochester Folding Box Co., Rochester, N. Y.
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Chicago Paper Tube & Can Co., Chicago, Ill.
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Fibreboard Products, Inc., San Francisco, Cal.
Fonda Container Co., Inc., Utica, N. Y.
Gates Paper Co., Ltd., Los Angeles, Cal.
Heekin Can Co., The, Cincinnati, O.
Indianapolis Paper Container Co., Indianapolis, Ind.
Lily-Tulip Cup Corp., New York, N. Y.
Marathon Paper Mills Co., Rothschild, Wis.
Menasha Products Co., Menasha, Wis.
Molitor Box Co., Milwaukee, Wis.
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Rowell & Co., Inc., E. N., Batavia, N. Y. —97
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Somerville Paper Boxes, Ltd., London, Ontario, Canada
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Clark Mfg. Co., J. L., Rockford, Ill.
Consolidated Fruit Jar Co., New Brunswick, N. J.
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Federal Tin Co., Baltimore, Md.
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CANS, TIN (Beer)

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CAPS (Metal), ALUMINUM, BRASS, TIN (Bottle and Jar)

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American Aluminum Ware Co., Newark, N. J.
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Armstrong Cork & Insulation Co., Cork Division, Lancaster, Pa.—204-205
Art Tube Co., Irvington, N. J.
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Bridgeport Metal Goods Mfg. Co., Bridgeport, Conn.
Chase Brass & Copper Co., Inc., Container & Closure Division, New York, N. Y.
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Empire Metal Cap Co., Brooklyn, N. Y.
Gutmann & Co., Ferdinand, Brooklyn, N. Y.
Hazel-Atlas Glass Co., Wheeling, West Va.
Kep-Ark, Inc., Boston, Mass.
Majestic Metal Specialties, Inc., New York, N. Y.
National Metal Cap Co., Brooklyn, N. Y.
National Seal Company, Brooklyn, N. Y.
Owens-Illinois Glass Co., Toledo, O.—185-187
Phoenix Metal Cap Co., Chicago, Ill.
Reynolds Metals Co., Inc. (Cap & Closure Division), New York, N. Y.—Insert 128-129
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Thorn Tite Tops, Inc., New York, N. Y. —201
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Chicago Molded Products Corp., Chicago, Ill.—249
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Mundet Cork Corp., Brooklyn, N. Y.—207
Northern Industrial Chemical Co., Boston, Mass.
Norton Laboratories, Inc., Lockport, N. Y.
Owens-Illinois Glass Co., Toledo, O.—185-187
Reilly Tar & Chemical Corp., Indianapolis, Ind.—267
Resinox Corp., New York, N. Y.—253
Reynolds Spring Co., Jackson, Mich.
Synthetic Plastics, Inc., New York, N. Y.
Tech-Art Plastics Co., Long Island City, N. Y.
Thorn Tite Tops, Inc., New York, N. Y. —201
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Victor Metal Products Corp., Brooklyn, N. Y.
Waterbury Button Co., Waterbury, Conn.—263
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Celon Co., Madison, Wis.
Du Pont Cellophane Co., Inc., Cellulose Caps Division, New York, N. Y.
Parke-Davis Co., Detroit, Mich.
Reynolds Metals Co., Inc., (Cap & Closure Division), New York, N. Y.—Insert 128-129
Sillcocks-Miller Co., The, South Orange, N. J.—241
Sylvania Industrial Corp., New York, N. Y.—Insert 144-145, 208-209

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CARTON LINERS

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Hartford City Paper Co., Hartford City, Ind.
Hazen Paper Co., Holyoke, Mass.—Insert 134-135
Henle Wax Paper Mfg. Co., Inc., The, New York, N. Y.
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Liebs Co., Inc., L. A., New York, N. Y.
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Permatex Fabrics, Inc., Jewett City, Conn.
Pyrotex Leather Co., Leominster, Mass.
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Bridgeport Metal Goods Mfg. Co., Bridgeport, Conn.
Chase Brass & Copper Co., Inc., Container & Closure Division, New York, N. Y.
Goertz Co., Inc., August, Newark, N. J.
Kolmar Laboratories, Newark, N. J.
Majestic Metal Specialties, Inc., New York, N. Y.
Sagamor Metal Goods Corp., New York, N. Y.
Scovill Mfg. Co., Waterbury, Conn.

CONTAINERS, MOLDED PULP (Bottles, Jars, etc.)

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Keyes Fibre Co., Inc., Waterville, Me.
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Lily Tulip Cup Corp., New York, N. Y.
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Russell Box Co., Medford, Mass.
Sealright Co., Inc.—Fulton, N. Y.

CONTAINERS, SULPHITE CYLINDRICAL AND NESTING

Boothby Fibre Can Co., Boston (Roxbury), Mass.
Fibreboard Products, Inc., San Francisco, Cal.
Individual Drinking Cup Co., Easton, Pa.
Iowa Fibre Box Co., Keokuk, Iowa
Lily Tulip Cup Corp., New York, N. Y.
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Western Waxed Paper Co., North Portland, Ore.
Wortendyke Mfg. Co., Richmond, Va.

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Fuchs & Lang Mfg. Co., Div. Gen. Ptg. Ink Corp., New York, N. Y.
General Printing Ink Corp., New York, N. Y.
Huber, Inc., J. M., New York, N. Y.
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Sun Chemical & Color Corp., New York, N. Y.
Triangle Ink & Color Co., Inc., Brooklyn, N. Y.
Ullman Co., Sigmund, New York, N. Y.

INK, LITHOGRAPHING AND PRINTING

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Capitol Printing Ink Co., Inc., Washington, D. C.
Coffee & Co., J. E., Union City, N. J.
Cray-Finne Co., Inc., New York, N. Y.
Davids Ink Co., Thaddeus, New York, N. Y.
Eagle Printing Ink Co., New York, N. Y.
Fuchs & Lang Mfg. Co., New York, N. Y.
General Printing Ink Corp., New York, N. Y.
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Stevens Co., Frank H., Gen. Ptg. Ink Corp., New York, N. Y.
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Triangle Ink & Color Co., Brooklyn, N. Y.
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American Label Co., The, New York, N. Y.
Arkadia Label Corp., New York, N. Y.
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Grand Rapids Label Co., Grand Rapids, Mich.
Greene Co., Stephen, Philadelphia, Pa.
Hanograf Corp., New York, N. Y.
Heywood Co., R. R., New York, N. Y.
Horn, John, New York, N. Y.
Howell & Co., F. M., Elmira, N. Y.
Kaumagraph Co., New York, N. Y.
Kehlmann Co., L., New York, N. Y.
Kittredge & Co., R. J., Chicago, Ill.
Krause, Inc., Richard M., New York, N. Y.—Insert 220-221
Lambooy Label & Wrapper Co., Kalamazoo, Mich.
Lechtman Printing Co., Kansas City, Mo.
Lord Baltimore Press, Baltimore, Md.
Madison Label Co., Chicago, Ill.
Manhattan Label Co., New York, N. Y.
Mason & Sons, F. E., Batavia, N. Y.
May Co., J. L., New York, N. Y.
Michaelson Lithograph Co., Brooklyn, N. Y.
Michigan Litho. Co., Grand Rapids, Mich.
Milwaukee Label & Seal Co., Milwaukee, Wis.
Muirson Label Co., Inc., Brooklyn, N. Y.
Nalco, Inc., New York, N. Y.—321
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 126-127
New York Label & Box Corp., New York, N. Y.
Outserts, Inc., New York, N. Y. (Combination Folder and Label)
Palm, Fechteler & Co., New York, N. Y.—221
Reyburn Mfg. Co., Philadelphia, Pa.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 128-129
Robinson Tag & Label Co., New York, N. Y.
Rode & Rand, New York, N. Y.
St. Louis Sticker Co., St. Louis, Mo.
Schmitt & Co., Inc., Geo., Brooklyn, N. Y.
Shuman Co., Frank G., Chicago, Ill.
Stanley Mfg. Co., The, Dayton, O.
Stecher-Traung Litho. Corp., Rochester, N. Y.
Tablet & Ticket Co., The, Chicago, Ill. —217
Tompkins' Label Service, Philadelphia, Pa.
Unique Printed Products Co., Inc., Terre Haute, Ind.
United States Printing & Litho. Corp., Cincinnati, O., and Baltimore, Md., and New York, N. Y.—Insert 96-97
Waldorf Paper Products Co., St. Paul, Minn.
Warner Bros. Co., Bridgeport, Conn.—81
Weil Sons Litho. Co., David, Brooklyn, N. Y.
Western Label Co., Los Angeles, Cal.
Wheeler-Van Label Co., Grand Rapids, Mich.
Wood, Nathan & Virkus Co., New York, N. Y.
Woodward & Tiernan Printing Co., New York, N. Y.
Wurzburg Bros., Memphis, Tenn.—Insert 218-219
Wynekoop Co., Walker, Chicago, Ill.

LABELS, MAILING AND SHIPPING

Atlas Label Co., Chicago, Ill.
Bartlett Label Co., Kalamazoo, Mich.
Cameo Die Cutting & Engraving Co., New York, N. Y.—219
Dennison Mfg. Co., Framingham, Mass. —Insert 72-73
Ever Ready Label Corp., New York, N. Y.—Insert 216-217
Fenton Label Co., Philadelphia, Pa.—Insert 222-223
French-Bray Printing Co., The, Baltimore, Md.

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Madison Label Co., Chicago, Ill.
May Co., The, J. L., New York, N. Y.
Milwaukee Label & Seal Co., Milwaukee, Wis.
Palm, Fechteler & Co., New York, N. Y. —221
New York Label & Box Corporation, New York, N. Y.
Paper Affiliates Co., Inc., New York, N. Y.—141
Reyburn Mfg. Co., Philadelphia, Pa.
St. Louis Sticker Co., St. Louis, Mo.
Salisbury Mfg. Co., Providence, R. I.
Shuman Co., Frank G., The, Chicago, Ill.
Smelzer & Co., Quentin R., Williamsville, N. Y.
Tablet & Ticket Co., The, Chicago, Ill. —217
Tompkins' Label Service, Philadelphia, Pa.
Unique Printed Products Co., Inc., Terre Haute, Ind.
Wadill Printing & Litho. Co., Danville, Va.
Wheeler-Van Label Co., Grand Rapids, Mich.
Wurzburg Bros., Memphis, Tenn.—Insert 218-219

LABELS, METAL

Arkadia Label Corp., New York, N. Y.
Attleboro Printing & Embossing Co., Attleboro, Mass.
Cameo Die Cutting & Engraving Co., New York, N. Y.—219
Dennison Mfg. Co., Framingham, Mass. —Insert 72-73
Foxon Co., The, Providence, R. I.—223
French-Bray Printing Co., The, Baltimore, Md.
Kittredge & Co., R. J., Chicago, Ill.
Krause, Inc., Richard M., New York, N. Y.—Insert 220-221
Mason & Sons, F. E., Batavia, N. Y.
May Co., J. L., New York, N. Y.
Milwaukee Label & Seal Co., Milwaukee, Wis.
Reyburn Mfg. Co., Philadelphia, Pa.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 128-129
Rode & Brand, New York, N. Y.
Shuman Co., Frank G., Chicago, Ill.
Stanley Mfg. Co., Dayton, O.
Tablet & Ticket Co., The, Chicago, Ill. —217
Wurzburg Bros., Memphis, Tenn.—Insert 218-219
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Shellmar Products Co., Chicago, Ill.—127

LACE PAPER

American Lace Paper Co., Milwaukee, Wis.
Milwaukee Lace Paper Co., Milwaukee, Wis.
U. S. Lace Paper Works, Brooklyn, N. Y.

LACQUER (Paper Coating)

Egyptian Lacquer Mfg. Co., New York, N. Y.—Insert 150-151
Pyroxilyn Products Corp., Chicago, Ill.

LAMINATING, CUSTOM

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Dobeckmun Co., The, Cleveland, O.—139
Frank Associates, Inc., New York, N. Y.
Miller, Inc., Bert C., New York, N. Y.
Ralston & Co., W., Inc., Niagara Falls, N. Y.
Shoup-Owens, Inc., Hoboken, N. J.—Insert 64-65
Walser Mfg. Co., Inc., Clifton, N. J.

LATEX, NORMAL CONCENTRATED, PROCESSED

Heveatex Corp., Melrose, Mass.

LEATHER (Imitation)

Aldine Paper Co., New York, N. Y.—Insert 122-123
Beveridge-Marvellum Co., Holyoke, Mass.—Insert 140-141
Dejonge & Co., Louis, New York, N. Y. —Insert 132-133
Dupont Fabrikoid Co., Newburgh, N. Y.
Griffin, Campbell, Hayes, Walsh, Inc., New York, N. Y.
Hazen Paper Co., Holyoke, Mass.—Insert 134-135
Holliston Mills, Inc., The, Norwood, Mass.—129
Hughes & Hoffman, New York, N. Y.
Keratol Co., The, Newark, N. J.
Marvellum Co., Holyoke, Mass.—Insert 144-145
Matthias Paper Corp., Philadelphia, Pa. —Insert 120-121
Paper Affiliates Co., Inc., New York, N. Y.—141
Peerless Roll Leaf Co., Inc., Union City, N. J.
Permatex Fabrics Co., The, Jewett City, Conn.
Premoid Co., Springfield, Mass.
Revolite Corp., New Brunswick, N. J.
Standard Textile Products Co., New York, N. Y.
Textileather Corp., Toledo, O.
United Mfg. Co., The, Springfield, Mass.—Insert 138-139
United States Rubber Products, Inc., New York, N. Y.
Whiting Co., Inc., C. R., Hackensack, N. J.—Insert 130-131
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Edgewater Paper Co., Menasha, Wis.
Fort Orange Paper Co., Castleton-on-Hudson, N. Y.—95
Gair Co., Robert, New York, N. Y.
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Hinde & Dauch Paper Co., Sandusky, O.
International Paper Co., New York, N. Y.
Kimberly-Clark Corp., Chicago, Ill.—296-297
Matthias Paper Corp., Philadelphia, Pa. —Insert 120-121
Paper Service Co., The, Lockland, O.
Paterson Parchment Paper Co., Bristol, Pa.
Pioneer Paper Stock Co., Chicago, Ill.
Rexford Paper Co., Milwaukee, Wis.
Reynolds Metals Co., Inc., New York, N. Y.—Insert 128-129
Rhinelander Paper Co., Rhinelander, Wis.
Riegel Paper Corp., New York, N. Y.—Insert 136-137
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Anchor Cap & Closure Co., Long Island City, N. Y.—198-199
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General Felt Products, Inc., Brooklyn, N. Y.
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Standards Insulation Co., East Rutherford, N. J.

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Dennison Mfg. Co., Framingham, Mass. —Insert 72-73
Donaldson Litho. Co., Newport, Ky.
Edwards & Deutsch Litho. Co., Chicago, Ill.
Einson-Freeman Co., Inc., Long Island City, N. Y.
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Greene Co., Stephen, Philadelphia, Pa.
Gugler Litho. Co., Milwaukee, Wis.
Haass Litho. Co., Inc., New York, N. Y.
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Ketterlinus Litho. Mfg. Co., Philadelphia, Pa.
Lord Baltimore Press, Baltimore, Md.
Magill-Weinsheimer Co., Chicago, Ill.
McCandlish Litho. Corp., Philadelphia, Pa.
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National Folding Box Co., New Haven, Conn.
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Stubbs Co., The, Detroit, Mich.
Trautmann, Bailey & Blampey, New York, N. Y.
U. S. Ptg. & Litho. Co., New York, N. Y., Cincinnati, O., and Baltimore, Md. —Insert 96-97
Waddill Printing & Litho. Co., Danville, Va.
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Anchor Cap & Closure Corp., Long Island City, N. Y.—198-199
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Clark Co., Inc., Geo. V., Long Island City, N. Y.
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Continental Can Co., New York, N. Y. —Insert 176-177
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Nelke Sign Mfg. Co., Inc., New York, N. Y.
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Stokes Machine Co., F. J., Philadelphia, Pa.—339
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Triangle Package Machinery Co., Chicago, Ill.—373
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MACHINES, AUTOMATIC PRINTING

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Package Machinery Co., Springfield, Mass.—342-343
U. P. M. Kidder Press, Dover, N. H.

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Package Machinery Co., Springfield, Mass.—342-343
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Stokes & Smith Co., Philadelphia, Pa.—350-351, 369
U. S. Bottlers Machinery Co., Chicago, Ill.—347
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Williams Sealing Corp., Decatur, Ill.

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U. S. Bottlers Machinery Co., Chicago, Ill.—347

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Elgin Mfg. Co., Elgin, Ill.
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National Packaging Machinery Co., Newtonville, Boston, Mass.—385-388
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United States Automatic Box Machinery Co., Inc., Newtonville, Boston, Mass.—385-388

MACHINES, BOTTLE WASHING

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Kiefer Machine Co., The Karl, Cincinnati, O.
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Stokes Machine Co., F. J., Philadelphia, Pa.—339
U. S. Bottlers Machinery Co., Chicago, Ill.—347

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Dexter Folder Co., New York, N. Y.—283-288, 355-364
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Ideal Stitcher & Mfg. Co., Racine, Wis.—293
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Knowlton Co., M. D., Rochester, N. Y.—396-397
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Saranac Machine Co., Benton Harbor, Mich.—299
Staude Co., E. G., Minneapolis, Minn.
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MACHINES, BOX PACKING

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Standard-Knapp Corp., Chicago, Ill.—341

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MACHINES, CAN CASING

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Toledo Scale Co., Toledo, O.—379
Triangle Packaging Machinery Co., Chicago, Ill.—373
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Wilson Steel Products Co., Chicago, Ill.

WIRE, STITCHING

Acme Staple Company, Camden, N. J.—280
Acme Steel Co., Chicago, Ill.—279
Bates Mfg. Co., The, New York, N. Y.
Bostitch Sales Co., E. Greenwich, R. I.
Chicago Steel and Wire Co., Chicago, Ill.
Dexter Folder Co., New York, N. Y.—283-288, 355-364
Ideal Stitcher & Mfg. Co., Racine, Wis.—293
Morrison Co., Inc., J. L., Niagara Falls, N. Y.
Prentiss, Geo. W., Holyoke, Mass.
Saranac Machine Co., Benton Harbor, Mich.—299
Seneca Wire & Mfg. Co., Fostoria, O.
Wilson Steel Products Co., Chicago, Ill.

WOOD VENEER, GENUINE (SHEETS)

Aldine Paper Co., New York, N. Y.—Insert 122-123
Japan Paper Company, New York, N. Y.—123

WRAPPERS, BOTTLE (Corrugated)

Consolidated Paper Co., Monroe, Mich.—305
Container Corp. of America, Chicago, Ill.
Gair Co., Robert, New York, N. Y.
Gaylord Co., Robert, St. Louis, Mo.
Hinde & Dauch Paper Co., Sandusky, O.
Kimberly-Clark Corp., Chicago, Ill.—296-297
Owens-Illinois Glass Co., Toledo, O.—185-187
River Raisin Paper Co., Monroe, Mich.

WRAPPERS, FOIL

Aluminum Co. of America, Pittsburgh, Pa.—165
American Foil Corp., New York, N. Y.—Insert 122-123
Bennington Wax Paper Co., Bennington, Vt.—135
Coy, Hunt & Co., New York, N. Y.
Daniels Mfg. Co., Rhinelander, Wis.
Foil Products Corp., New York, N. Y.
Johnston Tin Foil & Metal Co., St. Louis, Mo.
Keller-Dorian Paper Co., New York, N. Y.—Insert 120-121
Reynolds Metals Co., Inc., New York, N. Y.—Insert 128-129

WRAPPERS, PRINTED GLASSINE

Bendix Paper Co., New York, N. Y.
Ben-Mont Fancy Papers, Inc., Bennington, Vt.—135
Bennington Wax Paper Co., Bennington, Vt.—135
Central Waxed Paper Co., Chicago, Ill.
Daniels Mfg. Co., Rhinelander, Wis.
Deerfield Glassine Co., Monroe Bridge, Mass.
Dennison Mfg. Co., Framingham, Mass.—Insert 72-73
Dobeckmun Co., The, Cleveland, O.—139
Hamersley Mfg. Co., Garfield, N. J.
Hartford City Paper Co., Hartford City, Ind.
Hazen Paper Co., Holyoke, Mass.—Insert 134-135
Henle Wax Paper Mfg. Co., Inc., The, New York, N. Y.
Holyoke Coated & Printed Paper Co., New York, N. Y.
Marvellum Co., Holyoke, Mass.—Insert 144-145
Matthias Paper Corp., Philadelphia, Pa.—Insert 120-121
Menasha Products Co., Menasha, Wis.
Milprint Products Corp., Milwaukee, Wis.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 126-127
Package Paper Co., Holyoke, Mass.
Paterson Parchment Paper Co., Bristol, Pa.
Riegel Paper Corp., New York, N. Y.—Insert 136-137
Shellmar Products Co., Chicago, Ill.—127
Traver Corp., Chicago, Ill.
United Mfg. Co., The, Springfield, Mass.—Insert 138-139
Westfield River Paper Co., Russell, Mass.
Wurzburg Bros., Memphis, Tenn.—Insert 218-219

WRAPPERS, WAXED PAPER AND PARCHMENT

American Tissue Mills, Holyoke, Mass.
Bennington Wax Paper Co., Bennington, Vt.—135
Central Waxed Paper Co., Chicago, Ill.
Continental Paper & Bag Corp., New York, N. Y.
Hamersley Mfg. Co., Garfield, N. J.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.—125
Marathon Paper Mills, Rothschild, Wis.
Menasha Products Co., Menasha, Wis.
Milprint Products Corp., Milwaukee, Wis.
Nashua Gummed & Coated Paper Co., Nashua, N. H.—Insert 126-127
Newark Paraffine & Parchment Paper Co., Newark, N. J.
Package Paper Co., Holyoke, Mass.
Paterson Parchment Paper Co., Bristol, Pa.
Riegel Paper Corp., New York, N. Y.—Insert 136-137
Royal Card & Paper Co., New York, N. Y.—Insert 128-129
Traver Corp., Chicago, Ill.
West Carrollton Parchment Co., West Carrollton, O.
Wurzburg Bros., Memphis, Tenn.—Insert 218-219

FACTORS GOVERNING PACKAGE DESIGN

BY ROY SHELDON

THE TRIPLE JOB every package must perform—first in the factory, then in the store and finally in the home—determines its logical and appropriate design. It must be filled and sealed and packed economically, easily and surely. It must reach the retailer in perfect condition. It must be attractive on display. It should sell itself. And once purchased, it must be conveniently opened, possibly resealed, and it must guard and protect its contents—and the customer's good will—until it is entirely consumed.

After the job the package has to do has been stated, the first limiting factor is

Costs: The nature of the merchandise, its retail price, the quantity packaged, will closely determine the maximum cost limit. On a dollar face powder this may be ten cents; on a kitchen soap, it may be two cents, but every one concerned with the design or the production of the package should be furnished in the beginning with a maximum cost limit within which to work. When this limit has been established, it is possible to choose

Materials: In terms of maximum cost allowable, it is advisable to consider all the *possible* materials. A given unit of merchandise may possibly be packaged in glass, tin, cardboard, transparent cellulose, molded compounds, paper or other materials. The cost limit may rule out some of these immediately, but those that remain should be given comparative consideration. Knowing the possible materials, the choice of *which material* is dependent upon two factors. The first is its suitability to contain the merchandise. The second, its suitability to sell the merchandise. Production factors and the matters of plant handling, as well as the entire distribution system through which the package must go, deserve precise consideration in choosing the material for the container and protector of the merchandise.

In rating it as a "selling" package another set of considerations will involve consumer convenience, use in the home, display value in the store, etc., even to such details as practicability of furnishing dummy packages for display purposes at a low cost. These factors immediately bring up the

Merchandising Plan and Objectives: The design of a package should be a direct result of the merchandising plan behind the product. Business no longer decides that it will put out a pint of this, or three ounces of that, at such and such a price. It plans to suit consumer convenience, to out-think competition, and to promote and sell its merchandise in the logical places and the logical sizes and at the logical prices, before it determines on package design. Shape, size and appearance must carry out the necessities of merchandising objectives. The copy on the package and the use of the package in radio and printed advertising, in sampling and in display, will conform to the plan in which all these promotional elements are unified.

To approach the problem with the idea of designing a package first and working it into the business later, because the appearance of the package seems attractive to the executives, is to function backwards. Every experienced designer insists upon knowing what the job of the package is, how it will be produced and handled and into what sales plan it fits, before he touches pencil to paper. To design a package without knowing what it must do is a dangerous waste of time. For this reason the fairly common practice of manufacturers who ask designers to "work up an attractive sketch" makes no sense whatever. It is designing in a vacuum.

Creating the Design: When the price limit is known, the possible materials chosen and the merchandising plan established, the designer can begin his work. His first step is to draw up the specifications of

Size and Shape: The package is always an object in three dimensions. It has something inside it; weighs a certain amount. It must be packed and shipped and stacked and handled. It runs a constant risk of being torn or dented or soiled. The designer establishes a cubic size and gives this size a practical and economical shape. His next consideration is

Convenience: We have machines to close packages and trained operators to manipulate them. But packages are opened by *amateurs*. The housewife has only her two hands. She should be able to open the package, and, if necessary, reclose it easily, cleanly and quickly. This is, unfortunately, not the case in literally thousands of packages now on the market. One of the designer's objectives, therefore, is always to make the package as convenient as his materials, cost and ingenuity will permit him to do so.

No available improvement in convenience should be neglected, because a more thoughtful competitor may at any time incorporate it in his package. This is why the designer must devote careful thought and all the ingenuity he can command to giving the maximum convenience to the package. At this stage the elements of the package as an object and its functions as a container have been determined. It remains to give the package that which it needs in the way of

Decoration: The decoration of the package can always be reduced to the fundamental order of the elements of the design. Bands, circles, panels, etc., frequently form the basic plan of the decoration. The name, trade mark, copy panels and decorative devices of various sorts, are the contributory design elements

and take their respective places *in the order of their importance* within the basic frame of the design, which we can term the

Layout: The scheme of the package decoration must have a certain balance through all its parts. It should take advantage of the third dimensional nature of the object. A band, for instance, will lead the eye from one flat surface into another plane and enhance the impression of bulk in the package. The layout establishes the order of the entire design treatment and it is this order which makes the package a unified whole. We get a distinct and clear impression rapidly and tend to *remember the package whose design is well organized,* well laid out. The layout determines the spacing and placing of the

Copy: The package should state in words the essential facts of its name, use, chief appeals, possible merits of the product it contains. In many cases it may also sell related products in the manufacturer's line. It can carry out some of the functions of an advertisement, but the decision as to what copy is appropriate to the package and what is the order of importance of the various parts of this copy story, must be decided individually for each package design.

Adequate brevity not ballyhoo is the surest means of guaranteeing the consumer's *incentive* to read. Sell the product by enabling the customer to get the maximum use and satisfaction from the merchandise. Many packages today are not carrying a complete, clear and effective copy story in the space that is available. The trend is to utilize the display face of the package to get attention and make a favorable impression *at a distance.* The entire rear face of the package can then be used to tell the story of the product and its use. Simple menus and suggestions for different uses are logical and appropriate here. This panel is designed *to be read with the package in the hand.* Thus the essential organization of the majority of the package is one side—the display face to carry at a distance, like a poster, while the copy side, with possibly the ends and lateral sides, tells a more complete and detailed story upon close inspection.

Color Scheme: The science of color is one thing and the psychology of color is another. Colors can be measured and classified scientifically, which is of great value technically. Humanly, however, we each have different reactions to colors. The safest procedure, as far as the package is concerned, is to get a broad and typical reaction to the color scheme. One technique for choosing the final color scheme is to have the package made up in several different colors and to get a consumer opinion either from a typical group or from an actual sales test in a store. The opposite technique is to consult a color expert or designer who has specified colors for years.

Certain general considerations should not be neglected. The dominating color of competitors' packages may serve to simplify the problem. Food products will naturally use appetizing colors; packages which go into the home wisely refrain from too garish and crude a color treatment, as this is offensive to many women. Display packages and display containers in general may be permitted greater liberty, since their prime object is to attract attention in the store. One of the simplest tests is to take the package design in dummy form and place it in its logical position on the shelves of typical stores and note its effectiveness.

The color scheme can serve another important function by distinguishing between similarly packed products with great effectiveness. Various flavors of the same product are immediately identified by using different colors on the package.

In general, a light colored package, free from restricting panels, gives a larger appearance than a dark package. The recent trend toward transparent cellulose wraps and improved protective varnishes enables the designer to utilize white backgrounds and lighter and brighter colors without fear of the package's soiling. One rather clear trend today is this tendency to brighten up the store and freshen up the package by employing larger spaces of the lighter shades or white.

Below is a check list of the chief factors affecting package design. If those concerned with the design will take the trouble to fill in the blank spaces, they will have organized the design problem very much as the independent professional designer approaches it.

Convenient Check List of Factors Governing Package Design

Product:

Where sold: Nationally....; or Section.....

Type of Stores: Grocery....; Drug....; Hardware....; Specialty....; 10c....; Dept.....; Chain....;

Type of Display: Shelf....; High....; Low....; Counter....; open....; under glass....; Window....

Who buys: Women.... Men.... Children....
Old.... Young.... Special Markets....

Why: Appeal: (as beauty, health, appetite, price, etc.)

Primary.....
Others.....
.....
.....
.....

What price by Sizes:
Largest Selling....; Next....; Next....; Next....

Suggestions:
Objections to present packages.....

Change Desired: Complete.....
Moderate.....
Conservative.....

Production Data:

Approximate Annual Quantities.....
Preferred Sources of Supply.....
Maximum Package Cost Item Can Stand.....
Handling in Plant Full Automatic ... Machines
Hand Automatic.....
Semi Automatic.....

SELECTION AND APPLICATION OF COLOR FOR PACKAGES

BY GEORGE WELP

IT CAN BE SAID with truth that today there are no colorless industries. Color invasion of the home due to the progress of plastic materials has brought life and gayety to the handles of kitchen ware, pastel colors to towel racks and gas ranges, identification and brightness to tooth brush handles. A short time ago one of the large mail order houses would have considered a list of 50 colors in its catalogue remarkable; today it lists over 340 colors. Ninety per cent of all wash cloths and towels were once white; today the reverse is true with colors predominating. In fact, one of the few remaining evidences of a preference for white is the fact that house flies still prefer white table cloths to colored ones.

As compared with the last decade, color in magazine and newspaper advertising has increased many times. The first 4-color advertisement appeared 46 years ago and proclaimed the merits of Shredded Wheat in what is now the *American Magazine*. Today with the growth and improvement of color photography and color reproduction methods, the effectiveness of color in magazine advertising is being recognized as never before. The International Printing Ink Corporation recently distributed 10,000 copies of a book called "Color Sells," reproducing 96 examples of color photography. The response to this was phenomenal. Not within the memory of anyone in the company's personnel with advertising experience has such a response to a piece of promotion been received.

In the field of both amateur and commercial photography, in still photography as well as motion, we are on the threshold of a new era. Eastman-Kodak sales on Kodachrome are 10 times greater than their most optimistic expectations. Color prints on paper for the amateur are just over the hill; in fact, one excellent process has already been put on the market. The perfection of the new Technicolor, exemplified by the premiere of "Becky Sharp" bids fair to be the opening gun in a revolution which may upset the motion picture industry more definitely than the introduction of sound. The possibilities in color photography applied to package design has not yet been fully realized. Here is an opportunity for an entirely new technique, one which may easily exert a profound influence on packaging design. Perhaps one of the few common denominators of all forms of advertising media is color.

Out of this unquestionable growth in the use of color the public flings its challenge—a demand for a more effective and more selective use of color. This demand is expressed with particular definition in the field of package design. How are we to meet this challenge? Certainly not merely by opinions that may be expressed.

It has been said that color is a phenomenon about which people know a lot of things which are not so. Let us look at a few things about color which are so, and try to answer the question: What is a fundamental knowledge of color? In order to effectively and I might say intelligently understand color, it is necessary to recognize and to coordinate three viewpoints, color chemistry, the psychological aspects of color, and color as light, or color physics. In the past, few have accepted this premise and have insisted that the conflicts among these three viewpoints were irreconcilable. The research laboratories of The International Printing Ink Corporation have conducted a fundamental study of color and the results of that study show that we were lacking in some of the basic truths about color. Let us look at these three viewpoints, one at a time.

It is certainly necessary for the designer and the user of color to appreciate the magnitude and at the same time the limitations of the chemical problem. Thousands of synthetic dyestuffs have been developed and many converted into pigments for use. There are at present necessary limitations for each specific purpose. In publication advertising practically the whole range of available colors is suitable for process, letterpress, gravure and offset printing because problems such as fading are not important in the short life of the publication. Whenever a color problem involves outdoor display or the printing of cartons or labels, we must be limited to those colors which are not fugitive and the selection is narrowed. In packaging, when such difficulties as alkali, acids and sweating are encountered, the range narrows still further. The entire field of labeling alcoholic beverages is a problem in itself. In the food industry it is necessary to have inks which will impart no odors and, finally, in parchment printing, inks must undergo thirty separate tests and in the final analysis only six materials are found to be suitable and available for this type of printing.

One may say this puts a serious limitation on the package designer's palette. My answer is that it is far more important to select colors which are reproducible and fool-proof, than to ignore the chemical limitations and be disappointed in the result or encounter genuine marketing difficulties because the materials were not properly selected at first.

Next in order of importance are the psychological aspects of color. These particularly are the concern of the designer, who judges color merely as it is seen by the eye, a sensation in the brain. It would seem that first we would need some method by which it may be described. Obviously, a discussion of color would be futile without a language by which color may be accurately described.

An accurate language is available in the terms of the physicist—dominant wave length, brightness and purity, but it is still so new that only a comparatively small group comprising physicists and others working in the field of colorimetrics are familiar with it, and therefore it can hardly be considered a common language. Nevertheless, to describe color completely it is always necessary to use three dimensions. Just as in measuring a box we give its length, width and depth, so too in measuring color, we include the three dimensions—hue, value and chroma.

Hue is the quality by which we distinguish one color from another, as red from yellow or yellow from blue. Value is the lightness or darkness of a color as compared with a scale of grays from white to black. Chroma is the purity of a color, or the quality by which we distinguish a strong color from a weak one or from one that is "grayed." To apply these three dimensions we first describe a color as green, its hue, then designate value,. or the lightness or darkness, and to complete the description, give its chroma, whether it is a rich green or a grayed green.

We now have a language by which we may describe color as the eye sees it in three dimensions, which parallel the physicist's dominant wave length, brightness and purity. While it may not lend itself to the accurate measurements of the physicist, it serves the user of color far better than the literary method. It is a psychological language which more nearly fits the physicist's measurements than any other, the hue corresponding in a broad way to the dominant wave length, the value to brightness and the chroma to purity. Such a three dimensional system of describing color from the psychologist's standpoint provides a common language with which to discuss the behavior of color as the eye sees it and the principles of color relationship.

However, just as it takes more than a knowledge of the names of the notes to make a musician, it takes more than a color language to combine colors in a masterly way. The moment we introduce a background or place two colors together they become subject to surprising changes in either hue, value or chroma and often in any two or all three of these characteristics of color. This is due to the fact that any two adjacent colors produce "simultaneous contrast" effects in each other. Most of these facts are well known, but are still frequently ignored—the same gray appears lighter against black and darker when contrasted with white—a green undergoes decided chroma change, appearing stronger on gray, and grayer against a strong green background—a green on a strong yellow background appears bluish and on a strong dark blue background it appears yellowish—the same red appears both lighter and more orange on a dark red background, and darker and bluer on an orange background.

These modifications by simultaneous contrast indicate why we should be familiar with the effects produced on color by backgrounds and surroundings. We need to know what changes to expect when combining colors in order to know what to avoid as well as what to use. We cannot escape backgrounds because everything in life has a background.

It is evident, therefore, that the combining of colors produces a new set of factors which are problems in design and that we cannot separate color from design. The moment two or more colors are placed in an arrangement they affect each other and the element of design is introduced.

The definition of design in intent or purpose and rules for color relationships will not suit every purpose, because of the many variables involved. We need the talents of a designer to show us how to use color with distinction. It has been the subject of comment that package design is so often deficient in good typography. With few exceptions, package design is at the same stage of evolution in which advertising design was before the efforts of the layout men were augmented by the services of a good typographic and lettering designer. It is almost hopeless to achieve outstanding package design by reliance on color theory alone; in fact, it is possible to produce a distinguished package design in monochrome if it is well organized, if the lettering has been efficiently designed in good taste, and if proper attention has been given to value contrast. Even an achromatic scheme may be outstanding and possess the necessary degree of visibility if it is sound in its design organization.

While there are no rules as precise as those in chemistry and physics, a knowledge of the broad principles for color relationships will be helpful. Contrast in value is an important factor in a composition or design. Value difference alone without regard to hue or chroma may make or mar the result. Value contrast will make lettering or type, for example, legible or illegible. A color of middle value will be least distinguishable on another color of equal value and the greater the contrast in value the better the legibility.

Maximum contrast is obtained by the use of colors of extremely strong chromas if they differ sufficiently in value from black or white, or one another. The best examples of this form of contrast are: a yellow of extreme chroma shown on a black; a strong dark blue on white; a strong yellow on dark blue.

It is also useful to know the relative power of colors. At their maximum chroma the hues in the chromatic circle have varying values which play a part in visibility and in the power which a color possesses. Of course in considering the power of a color it is impossible to think of it without a background color and the contrast of value and chroma must be considered.

A strong yellow on a black field is an excellent illustration of maximum visibility. Although certain other factors have a bearing on the case, this visibility may be attributed to the extreme contrast plus the power of the yellow. The power of a color may be considered as the product of value times chroma. The magnitude of the product is a good indication of the worth of a color from the attention or attraction standpoint. Thus a bright, strong yellow-red would be considered as a powerful color because of the large product result-

ing from high value and strong chroma of that color.

The problem of design and color is so interrelated that it is impossible to divorce them. Color cannot be slapped on a poorly organized design as a plaster is placed on a lame back. A poor design can no more be corrected by color than a misplaced vertebra can be corrected by a porous plaster. It is surprising how frequent are the requests to make color recommendations for designs so disorderly that they merit legal action or even worse.

These constitute some of the fundamental facts about color. A more complete treatment will be found in "Three Monographs on Color": 1. Color Chemistry; 2. Color As Light; 3. Color In Use; published by the research laboratories of The International Printing Ink Corporation this year. The monographs also cover the all important physical analysis of color which plays a vital part in the establishment and maintenance of standards that are acceptable.

Rule of thumb methods are not good enough any more because the public is beginning to express its dissatisfaction with them. The time may come when the business man without a fundamental knowledge of color may find himself as seriously handicapped as if he were unfamiliar with the fundamentals of mathematics necessary to his business.

TYPOGRAPHY AND THE PACKAGE

BY GILBERT P. FARRAR

THERE is little difference between handling the typography for packages and handling the typography for advertisements that are to be used in any kind of publications. When applying type to advertisements the typographer usually begins with a rough sketch of the advertisement and the copy. The copy is usually separated and graded. The importance of the various parts of the copy determines the relative amount of space which will be devoted to each portion as well as the relative size of type for each. And the same procedure can be followed for typography for packages.

Assume that by one of many routes we have arrived at a design for a consumer package. The package may be of glass, metal, wood or paper, and may be complete in itself. Or it may be any one of these plus a label, a wrap, a carton or a combination of these. Whether much or little copy is to be used on a package, the typography begins with the copy.

The copy is divided into three parts: (1) name of product; (2) slogan or major selling point; (3) minor selling points or usable information.

Many designers of packages seem to feel that the name of the product on a package should be drawn, rather than set in type. Undoubtedly in the near future many of those responsible for package typography will find that the present wide range of distinctive type faces offers an unusual opportunity for many outstanding packages. Frequently advertising copy, originally in drawn letters, has been set in type. A consumer package is an advertisement as well as a unit of merchandise. Many unusual advertisements have been set entirely in type.

Many merchandisers feel that on consumer packages of small size the name of the product and one strong selling point is about all the copy that can be effectively used. If any other material is used, it should be very small in size and in amount. Whether the product name is drawn or in type, the slogan or major selling point should be related in design to the product name.

There are various type faces which blend well with various formations and structures of drawn letters. Some sense of unity should be observed when handling items 1 and 2 of package copy. Where type is used for an entire package this question of unity in design is easily handled because of the wide variety of tone and structure in the average family or group of type faces. The secondary lines on some packages are so unrelated to the main name line as to cause the reader to feel that the secondary line was an afterthought.

Some manufacturers go to the extreme of leaving off the package everything except the name of the product and the slogan or major selling point. Then they put all the minor selling points, or the various uses of the product, in a small booklet or folder and fasten this booklet or folder to the main package, or enclose both package and enclosure in a carton. When the copy is reduced to just the name and the slogan, both are often repeated on the back panel. This is done so that, regardless of how the dealer places the packages on his shelves, the product name will face the prospect.

It is much better to make one package of the merchandise and its selling points even at the expense of using the back panel of the package as well as the side panels for the minor copy, and trust that the clerk will put the main front panel of the package out as he stacks the package on the shelves. The back panels will not have to be used often. When a good salesman for the product sits down with a good copy writer—both with the idea of being as brief as possible on the minor copy —the two side panels of any package will usually be sufficient. When they are, the practice of repeating the front copy on the back panel is favored.

XUM

Some packages use small bold type for setting the minor copy. Some use very light type. Except in rare cases both bold and light type are not the best. The smaller sizes of any bold type are not easily read. In the small sizes light types are both hard to read and anemic in effect. The thing to do is to use middletone types for any small copy on a package. And allow as much clear space between the three units of packaging typography as possible.

Accompanying this article is shown a group of type faces, and all but two of these are monotone types. That is, they have the same thickness of stroke in every part of every letter. The Bodoni Book is a light type. The Bodoni Bold is a variatone type. Such types have a light and a heavy stroke in every letter.

With the exception of the Typewriter type, these examples are set in ten point size with the eight point caps of the same type for a lead-in title to each group. Ten point is an easily read size. Eight point is the smallest size type that can be legally used on many packages. The typewriter showing is all in eight point. This is a decidedly interesting type—especially for those looking for something new. Few people know that American Typewriter type is made in many different sizes—from six to thirty-six point.

Printed on various colored sheets, a selection of the best small types for use on any package or label can be made, for it is thus possible to get the right type for the right color and finish of paper. It will be noticed that some types which are very readable on one color of stock will not be quite so readable on another.

One may conclude that Bodoni Bold is not the type to use for small type on a package or a label. It is not smooth in construction. Bodoni Book is too light for any use other than a very delicate effect on a very delicate color of paper. The general rule should be: use neither light nor bold types for packages or labels. Use rather one of the middletone types, and do some experimenting with Typewriter types when you are seeking novelty without loss of readability.

All of the samples shown, except Bodoni Bold and Bodoni Book, are both middletone (between black and light) and monotone (same color in every stroke of every letter). Monotone types give a very smooth effect which works exceptionally well with colored backgrounds. All the types shown read practically as easy when reversed—white type on black or colored background. Types of varying color of stroke do not reverse satisfactorily.

Up to now we have been considering consumer packages. Now with respect to shipping cartons which carry the consumer packages. Why not cover completely the sides of shipping cases with type big enough to be seen across the street? To those who raise the question as to whether type sufficiently large to cover the sides of a shipping case can be obtained, it should be stated that it is always possible to set a line of type—the largest size in whatever style type may be selected—and then make a "blow-up" engraving four or five times as large as the original type.

Instead of using a few lines of inch-high type in small size on the sides of a shipping carton, which would say "Made by Excelsior Soup Company, Chicago, Ill." why not set the word "Excelsior" in caps of a very large size type, make a good clear proof and then make a line engraving large enough to fill the longest panels on the carton. Then set the word "Soups' in the same type and make an engraving the same height as the long word and use it on the short panels. Regardless of how the shipping cartons were then placed on a truck the passerby would know that "There goes another load of Excelsior Soup."

American Types That Are Especially Suitable for Packages and Labels

Courtesy of American Type Founders Sales Corporation

STYMIE LIGHT *and Italic.* Form is the mold in which ideas are most perfectly cast; it is not only a *source of delight to the reader or the beholder*

■

STYMIE MEDIUM *and Italic.* **Form is the mold in which ideas are most perfectly cast; it is not *only a source of delight to the reader or the***

■

STYMIE BOLD *and Italic.* Form is the mold in which ideas are most perfectly cast; it is not *only a source of delight to the reader or the*

■

BOOKMAN OLDSTYLE *and Italic.* Form is the mold in which ideas are most perfectly cast; it is not only *a source of delight to the reader or the beholder*

■

CENTURY SCHOOLBOOK *and Italic.* Form is the mold in which ideas are most perfectly cast; it *is not only a source of delight to the reader or*

■

BERNHARD GOTHIC MEDIUM *and Italic.* Form is the mold in which ideas are most perfectly cast; it is not only a *source of delight to the reader or the beholder, but it*

■

BERNHARD GOTHIC LIGHT *and Italic.* Form is the mold in which ideas are most perfectly cast; it is not only a source *of delight to the reader or the beholder, but it is invaluable*

■

BODONI BOOK *and Italic.* Form is the mold in which ideas are most perfectly cast; it is not only a source of delight *to the reader or the beholder, but it is invaluable discipline*

■

BODONI BOLD *and Italic.* Form is the mold in which ideas are most perfectly cast; it is not only a source *of delight to the reader or the beholder, but it is*

■

REPRODUCING TYPEWRITER. Form is the mold in which ideas are most perfectly cast; it is not only a source of delight to the reader or the beholder, but it is invaluable discipline to

GETTING THE PACKAGE INTO CIRCULATION

BETWEEN the design and production of a new or replanned package and its introduction to the consumer lie a series of merchandising problems which, while applying with differing emphasis to different situations, nonetheless appear to greater or less degree in every instance of such package change. These may be summed up as follows:

(1) The problem of physical distribution—of getting the new package into the store.

(2) The problem of minimizing or eliminating losses in disposing of old stocks and the kindred problem of speeding up the disposal of such stocks.

(3) The problem of retaining all possible news value pertaining to the change and of capitalizing upon the change both with the jobbers, dealers and sales clerks and with the consuming public.

Within the compass of the first problem, arises the question of method to be followed in introducing the new merchandise. Should it be introduced simultaneously in all localities? Should the design change be made in several stages or should it be achieved in one jump? Should the change be made when dealer stocks are low or when they are high?

The method of greatest factory convenience would naturally call for making the change by the simple expedient of shipping out all of the old packages in process and in stock and then starting to ship the new merchandise as ordered. However this method would result in tremendous confusion on the part of both jobbers and dealers, in the creation of "shelf orphans" in the person of old packages lying on shelves while the new were being sold. Such unequal dates of introduction throughout the territory served would create dealer ill-will (among dealers having stocks of the old package) and complete loss of all the news and advertising values of the new package.

Hence good practice has always called for an attempt to *achieve simultaneous introduction over a large territory if not over the entire national market,* even though this may involve additional trouble and expense as compared with the alternative described above.

To achieve this, several methods are available. In the introduction of its Grape-Nuts package some time ago, the General Foods Company adopted the "equalization" method—shifting stocks among jobbers so that each would have an absolute minimum of old merchandise on hand at the time for introduction of the new package. Such "equalization" has also been practiced among dealers; is, in fact, practiced daily in the case of perishable products such as bread, but its most practical application when a package change is involved is among jobbers. It is best used when the product under consideration is light in weight, thus minimizing freight and packing charges; when jobbers are close together, reducing the length and cost of the haul, and when the demand for the product is fairly steady. In this way an approximate date for the exhaustion of all stocks can be set in advance.

Such equalization is particularly easy when the outlets for the merchandise are controlled by one or by a few central offices. Thus, the Great Atlantic and Pacific Tea Company had little difficulty in introducing its redesigned coffee packages because it could effect trans-shipments of merchandise from store to store without the cooperation of outside agents.

A second—a more usual—method calls for stock control initiated by the manufacturer's sales force. Here the salesman, being aware of the dealer's usual sales volume, is called upon to hold his orders down to the point where all stocks of the old package will tend to become exhausted at precisely the moment when the new package is to be introduced.

While this method is the one most easily practiced, it suffers from a number of drawbacks. First of all, it converts the salesman into a "non-salesman"—forces him to cut down orders rather than to encourage their increase in size. Secondly, it involves the danger of stock exhaustion in some stores prior to the date of introducing the new package. The loss of sales may here be negligible, but the loss of goodwill on the part of the dealers who lose the sales (because of the over-ruling of what they will maintain was their better judgment) is often too great to be risked.

A third danger lies in the loss of the dealer's interest in pushing the merchandise. The manufacturer who fails to urge the dealer to buy, certainly cannot expect his dealers to press the sale of the product and, in such cases, the dealer will tend to ignore the reason for letting up on sales pressure while seeing only the bare fact of the let-up. Finally, there will develop a decided tendency, on the part of all dealers, to avoid special promotions of the product because of the danger of running short of stock. Clerks will tend to be instructed to limit purchases to one to a customer instead of being asked to try to sell the one-package purchaser two, three or a half dozen of the article.

In spite of its practical and psychological disadvantages, this method is popular because it minimizes the amount of stock left after the new package has been introduced. It throws the major burden of effecting the change upon the dealer's shoulders instead of on those of the manufacturer. Hence the decision on the use of this method depends largely upon the type of dealers handling a given product. If they are limited in number, if they consist of large organizations willing to cooperate in effecting the change, if their merchandising methods are uniformly high and progressive, the method will work well. If, on the other hand, they are typical of the vast army of one-man, small stores, the utmost caution will be necessary if manufacturer-stock-control is to be attempted.

Another means of effecting a package changeover calls for the exchange of old merchandise for new at a given date. This is very seldom followed because it would involve a tremendous loss in freight, damaged goods, re-packaging, overhead and other charges. In fact, confronted with the alternative of re-packaging already-packaged merchandise and throwing it away, the average manufacturer will probably find the latter method less expensive.

However, the guarantee to purchase left-over stock may be combined with the stock-control method to achieve a solution better than either method alone would afford. Stock control would be relied upon to keep repurchases at a minimum. The guarantee would remove all restrictions and inhibitions against promoting sales both on the part of the manufacturer's sales force and on the part of the dealers' staffs. And the danger of left-over stocks plaguing the dealer after the introduction of the new packages would be removed.

Some firms resort to intensive promotion of sales through advertising in an attempt to quickly deplete stocks. Notable, as an instance of this sort, is the radio campaign used by the Pacific Coast Borax Company in which premiums were offered for box tops just prior to the introduction of the new package. This method, however, has distinct limitations. It does not guarantee equal sales to all dealers and, even less does it guarantee the unequal sales necessary to exhaust all stocks in all outlets at approximately the same time. Hence, others resort to a modification of the method, providing individual dealers with special promotional material in cases where they are falling behind in stock disposal. The one precaution to observe, is to see that such special promotion does not take the edge off the promotion based upon the introduction of the new package, which must follow shortly thereafter.

It will be seen that all these methods, with their varying advantages and disadvantages, involve a certain amount of friction and extra work on the part of both manufacturer and dealers. This can, of course, be minimized, by careful planning. However, because of this friction and extra work, the balance is all in favor of reducing package changes to a single operation. If the method of gradual change—over several stages—is followed, dealers will be called upon to exercise more effort than even the most understanding of them will consider worthwhile.

It is true that failure to dispose of all the packages in a given period of transition, prior to the introduction of the packages of the new stage, involves less danger of "orphan" development, because the difference between stages is slight. But, all too often, it happens that packages left behind in the first stages of change remain on the shelf during the entire process, only to be returned as unsalable, months after their manufacture has ceased and their existence, even, forgotten. These disadvantages—added to the complete loss of news-value which the gradual method involves—combine to make "gradualism" inadvisable in almost all cases. If a change is worth the making the new package will be news, to be blazoned forth in bold pictures and headlines.

One method which has been followed with marked success in the case of Luxor face powder (and which seems likely to be used in many more instances in the future), calls for the use of a dual package. The new package is wrapped within a printed covering reproducing the appearance of the old. Hence, distribution can be carried on over a long period of time, since all packages will look alike on dealers' shelves. Consumers will have time to become acquainted with the new design under the old. When, finally, it is decided to make the change complete, notification is sent to all dealers to remove the outer wrappers and—at the same moment—the new package makes its nation-wide appearance.

While this method almost completely eliminates all the headaches of "equalization," manufacturer control of dealer stocks, special promotions and "buy-backs," it likewise eliminates the news value of the package change, at least insofar as old and steady customers are concerned. Since, however, the news value of a package change, unless it involves a decided improvement such as added convenience features, is most important among new consumers, this danger is not so great as it might seem at first glance. The method seems to combine the advantages of gradualism with the simplicity and inexpensiveness of a speedy changeover. It cannot, of course, be followed where package shape is changed.

The question of the best time to make a change—when stocks are low or when they are high—will depend largely on the nature of the product. If it is a highly seasonal one, it is obvious that the time to make the change is the beginning of the manufactuer's selling season. Stocks being low, the amount of merchandise to be controlled, taken back or pushed out through special sales (depending on the method selected) will be held to a minimum.

Consequently losses, friction with dealers, the amount of dealer cooperation required and the period of time taken to complete the operation will all be cut to the smallest possible amount at this time.

If, however, the product is one having year-round sales but a seasonal peak, it is sometimes desirable to move for a change at the time of the peak, so that dealers can most quickly dispose of their stocks. High stocks here indicate heightened velocity over the country and, in the period when such velocity is highest, the possibility of moving stocks a bit faster is likewise higher. It must, however, be remembered that dealers are least willing to cooperate during their busy seasons. In most cases, therefore, the first of these two methods will be found the better.

The question of making the announcement of the package change will naturally arise whenever such a change is considered. Such an announcement must beak down into two parts—that going to dealers and that intended for the general public.

In the case of dealer announcements, best practice

calls for six to eight weeks' notice of a change. This permits of the dealer's making plans for disposal of old merchandise, for stock control and for rationed purchases. Any longer period will tend to take away a great deal of the dealer enthusiasm when the new package finally makes its appearance. Some manufacturers break their dealer announcement down to two stages. In the first they emphasize the distribution of the old stock. In the second, they bring forth the advantages of the new package so as to prepare the dealer for enthusiastic acceptance within a short period of time, and thus keep his enthusiasm at a high pitch at the moment of introducing the new product.

Consumer announcements—which, if the package change was at all worth doing, should be in the nature of big news worthy of bold, prominent promotion—should be timed for the exact moment at which dealer stocks of the new package achieve complete distribution. If announcement is made too early, its force is lost when the consumer enters the store and finds old packages still being offered. He or she naturally blames the innocent dealer for attempting to foist old goods upon his customers. And the dealer naturally resents the ineptness of the manufacturer who advertises merchandise he hasn't yet distributed.

If announcement is delayed for any period, while the merchandise is making its appearance on shelves and in windows, it not only fails to start the goods moving as soon as they reach the dealer, but it also loses much of its value as news because the package will already be "old stuff" to many consumers. Moreover, dealers will have difficulty in convincing some consumers of the genuineness of the new product unless advertising and promotional campaigns are timed closely with introduction on the shelves.

Closely related to the question of promotional selling of the old package is the question of cutting its price to achieve faster movement. While the cost to the manufacturer of such a cut (for only the manufacturer can be expected to assume this cost) is slight, its advisability is debatable because return to the original price will be a decided handicap for the new package. If, however, the new package involves a change in size, this problem is reduced in importance, though by no means eliminated. Where size changes are the major part of package changes—as happened recently throughout the toothpaste field—the changeover is made most easy by introducing the new size alongside of the old at a higher price, then discontinuing the old and cutting the price of the newer, larger package.

In some cases, manufacturers have resorted to the repurchase of old stock and its subsequent sale through a different type of outlet. When this method is followed as a means of retrieving part of the cost of repurchase, it is advisable to introduce some dating feature into the new package's design, so that regular dealers will have some measure of protection against old stock which may appear in their locality. This of course lowers the resale value of the old stock, but it does protect the regular outlets to some extent. In general, the dangers involved in such attempts at salvage are hardly counter-balanced by the small sum thus retrieved when this method is followed.

The question of regional or national change-over has its proponents on both sides of the fence. Those in favor of a regional change point out the possibility of moving merchandise gradually from east to west, or north to south, in "equalizing" stocks. Those in favor of the national changeover, point out the overlapping, the loss of news value in this day of wide travel, the long time necessary and the need for maintaining a factory line for both old and new packages. The odds seem to be in favor of a national change for all nationally advertised products, except those which have a moving season, such as sunburn lotions which sell earlier in the south than in the north. Where distribution is limited to a few separated areas—for instance to large cities such as New York, Cleveland and Chicago—the localized changeover can be effected without overlapping dangers and with consequent savings through movement of stock from territory to territory. The advisability of such movement still remains, however, dependent upon the fragility, the weight, and the condition of the product and the distance it is to be shipped. The method, even in such situations, has application mainly among jobbers and chain organizations.

It may seem, from the foregoing, that the introduction of a new package involves so many hazards as to make its consideration something to be long delayed. Yet such is not the case. Difficulties have here been pointed out because they must be appreciated to be overcome. But the manufacturer who hesitates because the difficulties exist, has merely to look to the number of others in his field, who have easily overcome these difficulties, to understand that advance planning can reduce them to negligible disadvantages which cannot possibly counterbalance the advantages to be gained when a package change is called for by sales conditions.

Balancing every difficulty of action is a corresponding and greater difficulty of inaction which makes a failure to effect a needed package change—merely because of the care necessary in getting the package into circulation—an extremely costly matter. The moral should read: "Make your changes and make them right, then they will quickly repay the cost of giving your dealers a break during the transition period."

Furthermore, a change in a package, if it is one which is sensibly planned, will receive a favorable reaction from most dealers because of their recognition of the greater consumer appeal which the new package will have. Therefore, the manufacturer can count on the support of his distributors during the period of replacement of the old stock. There are but a very few instances where difficulties have been encountered in such change-overs, and these have been the result of poor planning or an unreasonable attitude on the part of the manufacturer toward the dealer. It is believed, however, that the suggestions included in this article cover all of the general cases that may occur.

XUM

NOMENCLATURE OF SET-UP AND FOLDING BOXBOARD

BOXBOARD as used in the commercial lines is divided into two classes: set-up boxboard and folding boxboard. Both products are manufactured on the same machine, the difference being that created by the raw materials used in each in the process of manufacture. Briefly the two products may be described as follows:

Set-up Boxboard. The commonest form of set-up boxboard is known as chipboard. Next in quality is newsboard. These are the two basic boards for practically all ordinary set-up box work. Chipboard is made from mixed papers commonly known as paper stock. Solid newsboard is made from newspapers and is therefore a cleaner and more uniform product. Newsboard is also made with a chip center, but to outward appearances it is still newsboard.

These boards are packed in 50-lb. bundles, and the thickness of each sheet is dependent upon the number of sheets in the bundle. However, both chipboard and newsboard may be ordered in various finishes; for instance, both products are sold in a dry finish and water finish, the dry finish meaning the surfaces are free from a high finish, and the thicknesses are termed rough, medium or two-dry and three-dry. In the water finish they run 2, 3 and 4. The two-water finish is not necessarily a smooth board; the three-water finish is considerably smoother, and the four-water finish is about the smoothest that chip or newsboard is made.

Folding Boxboards may be classified as follows:

Bending chipboard is made of mixed papers, but the two surfaces contain fibrous products, such as manila clippings, jute liners and old corrugated boxes. This is the commonest form of bending board.

Next is single manila, which is either a chip or a newsboard with a percentage of unbleached sulphite on one surface, thus making this surface a cream color bending board. Next comes bleach manila with either chip or news back, the surface being made from soft white shavings and bleach sulphite stock. The sulphite produces the bending quality.

Patent coated is produced with a news back, the surface being made from hard white shavings and bleach sulphite. This board is used for higher grade folding boxes, either printed or lithographed.

Clay coated folding boxboard is the highest standard grade available for folding box manufacture. Thus it is used widely for packaging drugs, cosmetics, liquors, cigars and other products which are sold in attractive and convenient cartons. Like patent coated boxboard, clay coated is made with a news center, on which is a liner composed of sulphite and white shavings. But on to the liner of clay coated is applied mechanically a coating the base of which is clay and casein. This surface layer is then calendered to produce the desired high finish. The result is a smooth, uniform, solid sheet, especially suitable for modern color printing and lithography. Metallic finishes and light-fast colors are also obtainable in coated boxboard.

One company has developed a special sheet of protective boxboard which cannot be imitated and which is said to give absolute protection against the counterfeiting and imitating of cartons used for nationally advertised products. There are four special distinctive protective marks; two of which are visible to the public at all times; and two of which are secretive marks. These marks can only be supplied on clay coated boxboard. The marks are patented and cannot be imitated.

Folding boxboards are made on a water finish, and are produced on a basis of from 1800 to 2100 points per bundle, according to the finish required. In the very common grades of folding boxboard for suit boxes and shipping containers, there is the mist board which is practically a single manila lined finish, except for the mist colors, which can be made to specifications.

There is jute lined board, which might have a chip back and the brown surface is produced from the use of boiled wood, and finally container board, which runs 60-, 80- and 100-points. This board is a chip center with a 16-point jute liner pasted on either side.

LINING MATERIALS FOR BOXES

LINING assumes as important a role in the makeup of certain packages as the outside covering. A large percentage of boxes are lined with white or tinted papers as well as with gold and silver papers. Suede paper which is lined onto board or else wrapped over the form so that the score lines will not show is also used. Other types of fancy and glazed papers are also used. A list of these may be found on page 119. Certain types of book cloth fabrics in various colors and textures are similarly available. Rayon is likewise used on some of the partitions and linings of the cheaper set-up boxes.

A most practical material for box linings is velveteen, frequently miscalled velvet. The difference between the two is a technical one and the average layman does not know the difference between velveteen and velvet.

Velveteen fills a particular lining need in good packaging, especially where a soft cushiony effect is desired, as nothing can quite give the effect of richness as a luxurious velveteen. Many box, case and tray manufacturers have been using velveteens for linings for many

years, notably all the nationally known silverware manufacturers, pen and pencil set manufacturers, for perfume boxes, cutlery articles, razor cases, spectacle cases, draughtsmen's materials, toilet articles.

Velveteen comes in widths of 18 in., 22 in., 24 in., 29 in., and 36 in., making for a minimum of waste in cutting, and in a color range of 102 shades. When necessary any other shades can be dyed to match other materials. Velveteen is particularly adaptable to packaging as it is easily handled and may either be tightly stretched or shirred and conforms well to the surface which is being covered.

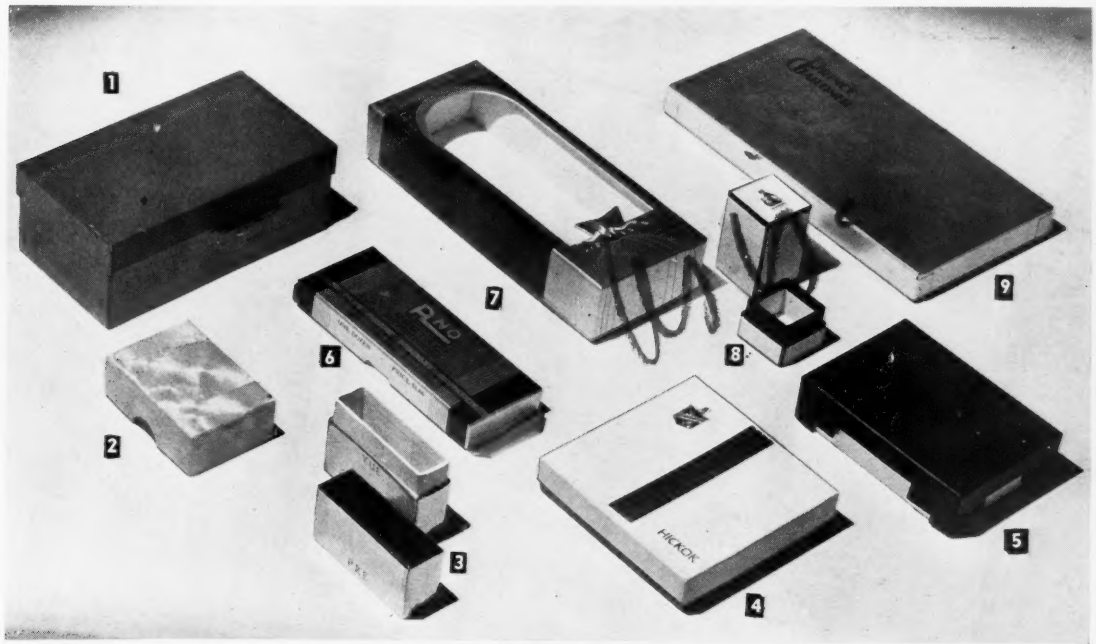
Perfumes and compacts are generally shown to best advantage in the various champagne shades, whereas shades of old rose, Copen blue and gooseberry are used for manicure sets. Silverware manufacturers incline to the more regal shades of royal blue, though there are the usual variations to meet the individual creations. Silverware trays prepared for the packaging of silverware in individual packages are also being lined with velveteen in shades of burnt orange, special shades of green, Copen blue and grey. For the lining of boxes which hold pearls, greens and turquoise blues are used. For the general run of cheap jewelry display, the predominating colors have been military blue, emerald green and mignon purple. For pen and pencil sets such colors as burnt orange, special Nile greens, as well as crystal grey, are used.

TYPES AND APPLICATION OF SET-UP PAPER BOXES

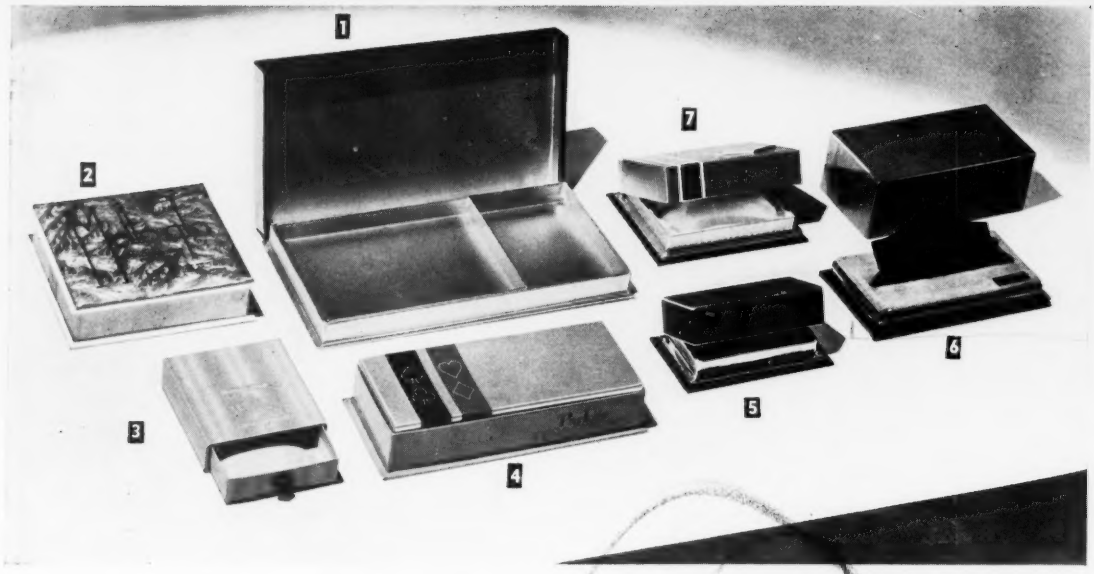
BY W. M. HILLIARD

PROBABLY all who read this article are familiar with the formula which in a few words describes a set-up box as one which is complete and ready for its contents when it leaves the box factory, not requiring the manufacturer who uses it to do more than remove the lid or cover before filling.

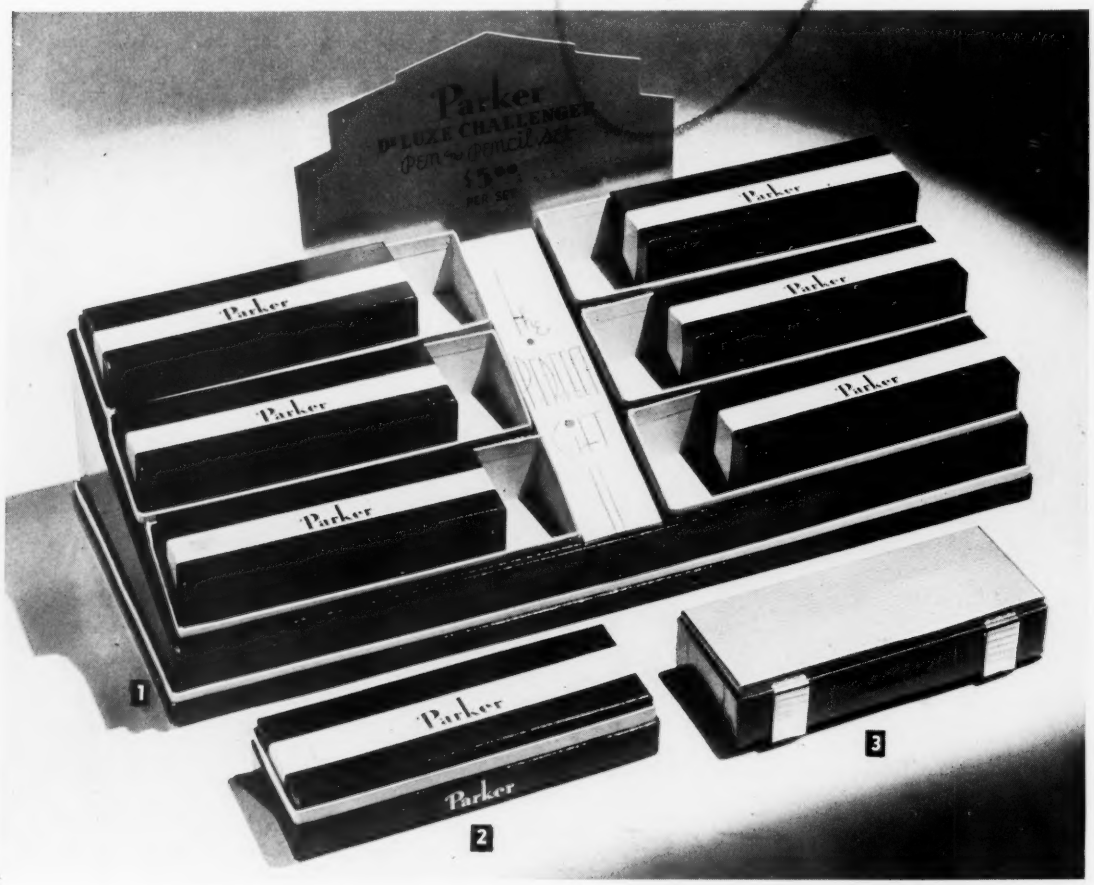
The set-up paper box has been made for commercial use in the United States for over ninety years, and its



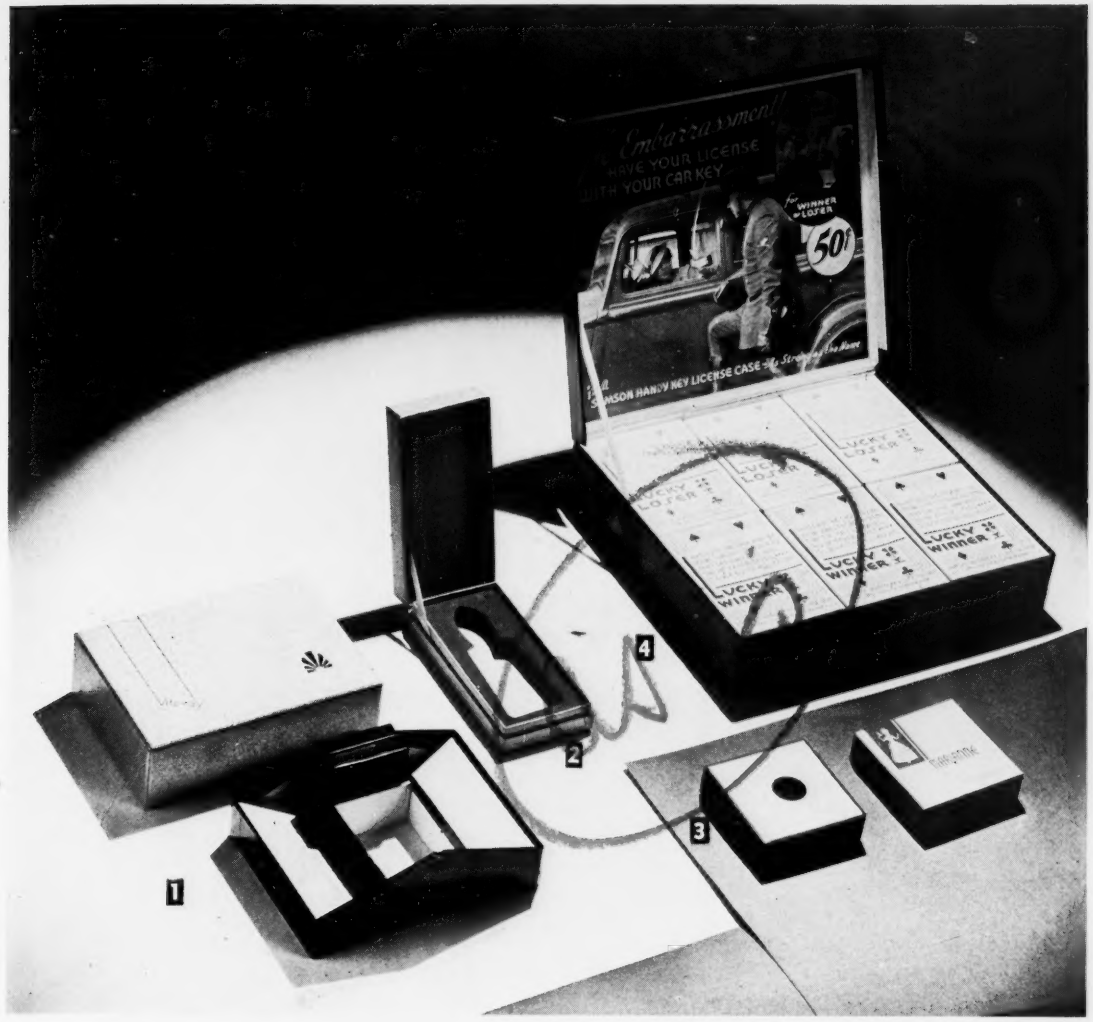
No. 1, with shut-over cover, and No. 2, with telescope cover, show the original simple types, first made in this country and which still lead in volume produced and used over all other types of set up boxes. No. 3 is the so-called shoulder style—cover and base have same length and width and there is a form inside the base over which the cover fits. No. 4. Telescope—cover sets over base, but extends not quite to the bottom of the box. No. 5. Full telescope with decorative cut-outs in sides of cover. No. 6. Full telescope style with cover wrap turn-in on two sides, loose and gummed so can be used to seal the box after filling. No. 7. Partial telescope box with top cut away as part of a design idea. No. 8. A further variation of shoulder type box, showing possibilities for styling by using labels on all outside surfaces in colors to contrast with a wrap applied first. No. 9. The simplest, least expensive type set up box it is possible to make, being plain board scored, corner cut and stayed



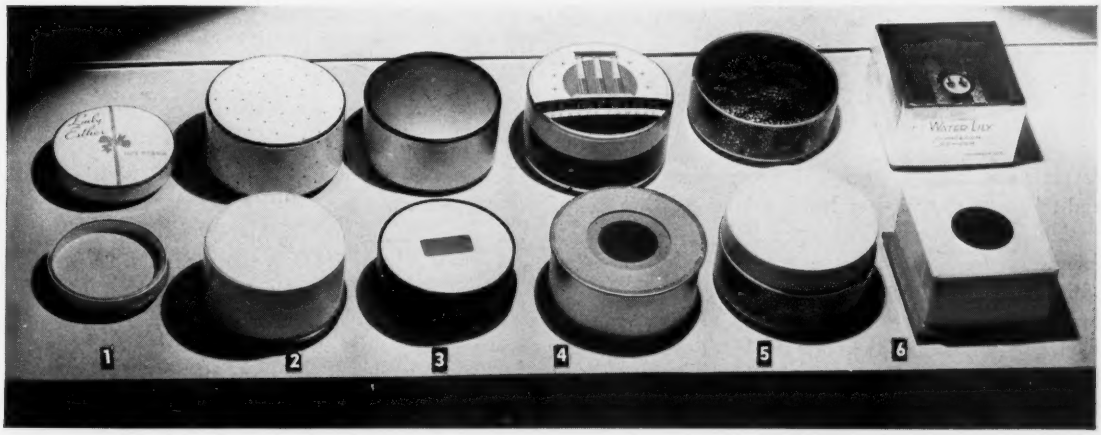
No. 1. Extension edge base, telescope cover style. No. 2. Telescope style box with extension edges on both cover and base, also a padded panel top. No. 3. One type of the slide or sleeve cover style. Special machinery has been developed for making the style with both ends of the cover open. No. 4. Variation of the more common extension edge box. It has a shallow cover sitting inside the base, resting on a rim support so it can be reversed for display purposes. Nos. 5, 6 and 7. Further variations of extension edge box, having double step edges, heavy double frame construction and fabric lined and hand embellished. No. 6 becomes a sturdy watch display fixture if cover is discarded



No. 1. Pen and pencil display boxes with large size display grouping six of one style to make complete unit. A sample bottle of ink in a carton sets in the base alongside the shortened cover. No. 2. Three-piece form in step back design base, inside reversible cover, fitted with display pad. No. 3. Simple type box with supports or legs at each end

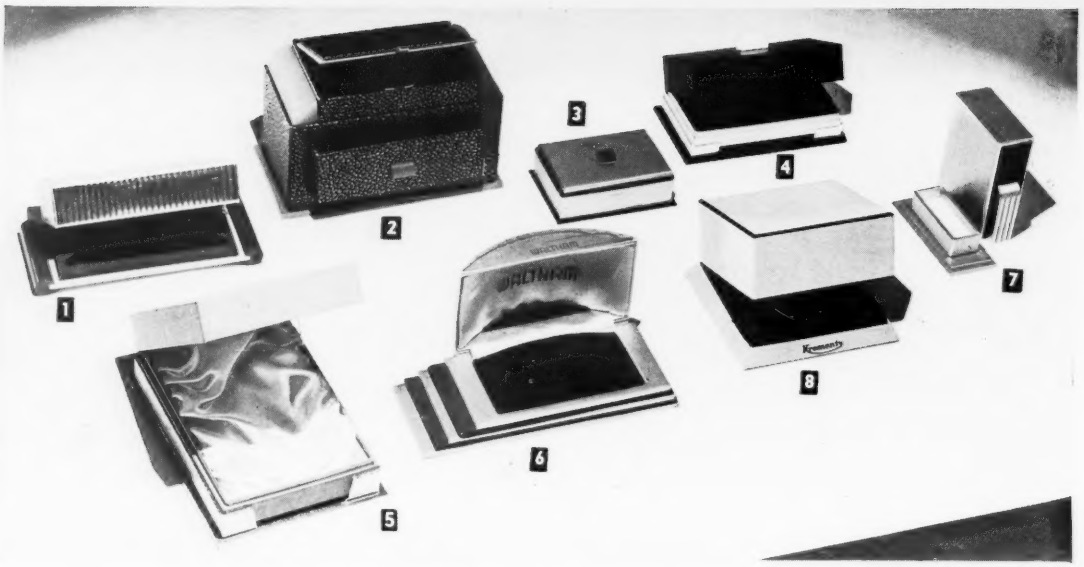


A few of the many possibilities for fitting and partitioning set up boxes to accommodate various products. No. 1, with shaped base, reversible in the cover for display, is built to hold an introductory cosmetic set and the box has been designed to take odd shaped bottles and jars. No. 2. Shoulder style box with a platform punched to the shape of bottle it will hold. No. 3. Telescope style face powder box with drum container fitted with transparent window. No. 4. Shut-over three-sided hinged cover display box with nest of small telescope boxes for displaying and dispensing small articles on dealers' counters

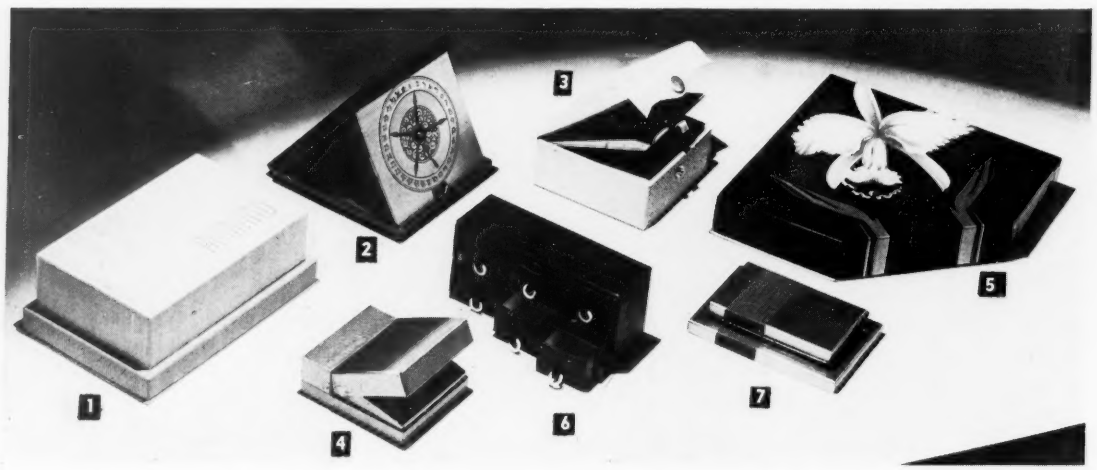


Types of powder boxes. No. 1. Round type commonly used in ten-cent store outlets. No. 2. Round telescope; projecting edge base, flush edge cover, all paper powder drum. No. 3. Round telescope, projecting edge base, crimped edge cover, paper powder drum with transparent cellulose window. No. 4. Round type, drum made on base with plug filler bottom. No. 5. Round shouldered with crimped edge on both base and cover. Drum forms collar of box. No. 6. Square, with loose wrapped top label and plug filler

XUM

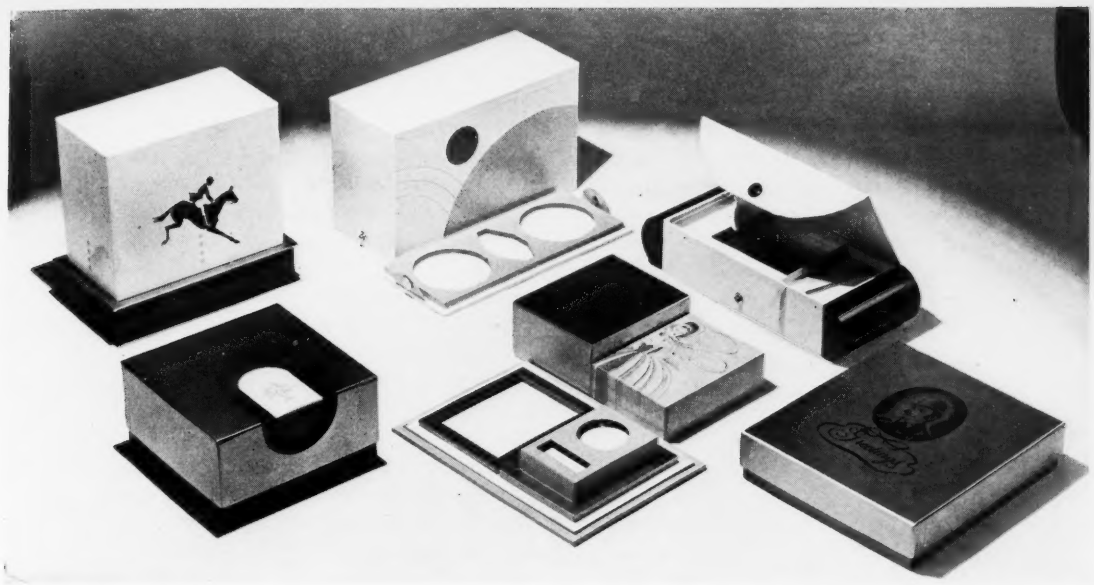


A collection of novelty boxes made by combining standard style set up box parts in unusual ways. Nos. 1 to 4 inclusive are trimmed with Catalin. Fine lacquer papers, foils, velveteens, rayon and satin used for covering and linings. No. 7 is trimmed with lacquered wood pieces that are glued to the sides of the cover



This group, illustrates further variety of styles and designs possible in set up boxes. No. 1. Massive design with platform and heavy pedestal base for packaging and displaying a combination face powder and perfume set. No. 2. Novelty piece for advertisers which takes the form of a perpetual calendar for the executive's desk. No. 3. Cabinet type, heavy construction face powder container with secondary use for a trinket or jewel cabinet. No. 4. Split cover case for display of rosaries or lavallieres. No. 5. Another type of odd shape, with fine rayon lining to hold box of face powder and bottle of perfume. No. 7. Another case with massive base, reversible sloped cover for display. No. 6. Cabinet type package with series of drawers to store repair parts of watches and jewelry, to be used permanently on the jeweler's repair bench

development from the original simple shut-over cover and telescope cover types, has been marked by one ingenious variation after another. It is the purpose of this article to illustrate and explain a number of these with the idea that the present and potential user of this finer type of package may possibly be impressed with the many possibilities there are for him to improve and perfect the packaging of his product. It is not exaggeration to state that the set-up box lends itself to more interesting variations in construction and styling than any other type. Of course, set-up boxes are constructed of many materials other than the most commonly used news and chipboard with or without paper coverings. For very high grade packaging, wood, plastic materials, metal, etc., are used and fabrics such as silk, rayon, velvet, leather and so on also serve as wrappings or coverings, and linings. Set-up boxes have a wide range of uses, from the strictly utilitarian box that protects its contents in shipping and storing and is discarded as soon as it reaches the consumer, up to the fine package that acts as a display and silent salesman, and such types as serve as ornamental containers over a lengthy period while the contents are being used. Many of these finer sorts of set-up boxes are retained in use long after the contents have been exhausted, and thereby keep the name of the manufacturer before the user.



Six cosmetic set boxes of unusual design, several of which will be used on a dressing table and keep the individual trade marked items together and are beautiful enough to influence user to replace the various units as fast as used

TYPES OF MAILING CONTAINERS

BY RALPH L. HARDEN

THE UNITED STATES MAIL will carry most shipments within limit of weight and size, provided they are properly packed and prepared in accordance with Postal Rules and Regulations. Because of the varied products shipped and the rules which the Post Office Department has promulgated to protect them in handling, mailing containers come in many varied forms and types and represent a specialized branch of the container industry.

Parcel Post box: This box is used for all unsealed mail and because of the metal fasteners that securely close the box, requires neither wrapping nor tying, the most widely used type of mailing container because of its simplicity, lightness and great strength.

Fourth Class box: This box is made to meet the demands of shippers using sealed Third and Fourth Class mail. An exceptionally strong box which, in addition to the metal fasteners on the sides, has gummed flaps at each end which allow it to be sealed. The gummed flaps are an integral part of the box itself and are usually imprinted with a safety tint which prevents tampering without detection.

Registered Mail box: This box is made in a style and weight to meet the exacting demands of the Post Office Department for registered mail and requires no wrapping or tying. Usually made from extra heavy stock to give added protection; it is sealed by means of gummed flaps on the sides and ends. These flaps are printed with a safety tint which prevents tampering without detection.

No-Break box: This box is usually made in two styles: one with metal fasteners for unsealed mail and one with the sealing flaps for sealed mail; the basic construction, however, being the same. To the regular mailing box is added an inner lining of double-faced

Mailing box which incorporates a new tamper-proof locking device

corrugated board making absolutely the strongest mailing box obtainable. This type of box is extensively used for fragile goods, diamonds and jewelry, glassware, electrotypes and all products that need maximum protection during shipment.

Metal Edge box: A two-piece set-up box, reinforced at the corners with metal straps. Exceptionally rigid and adaptable to the shipment of many products.

Letter box: This is a two-compartment container which allows the first class letter or bill to be mailed together with second, third or fourth class matter and reach the addressee at the same time. The envelope compartment on the top of the box is an integral part of the box wrap. The window in the envelope compartment allows the address of the letter to serve also as the address on the envelope and box. The box is closed by means of metal fasteners.

Types of metal reinforced mailing boxes. Box in foreground incorporates flaps that are glued down before mailing. Rear box has metal clip closure

Returnable box: This box is made in two styles, both having the same general purpose of allowing the recipient to make convenient return to the sender. There is a cut-out in the cover through which a reversible address card shows. For memorandum or returnable shipments, it is only necessary to reverse the printed address card and the box is ready for return trip. Addressing and stamping for both forwarding and return can be done before the box is shipped.

Screw Cap containers: For shipments of liquids over four ounces, the Post Office Department requires that they be mailed in a water-tight tube closed by means of a screw-top cover with sufficient screw-threads to require at least one and one-half complete turns before it will come off. Bottles must be surrounded with bran, wadding or other absorbent material in sufficient quantity to absorb all the liquid in case of breakage.

Rigid mailer: For photographs, sketches, proofs or any matter that must be shipped flat, this type of mailer should be used. A single piece of double-faced corrugated board incorporated with a wrap of heavy kraft paper allows the package to be shipped either sealed or unsealed.

Corrugated boxes: For products of large size or heavy weight, containers completely made from corrugated board are used. These are made in one, two or three pieces and are, usually, sealed with tape.

Generally speaking, all mailing containers fall into the above classes. Unusual products sometimes call for special treatment but their design incorporates one or more features of the above styles.

FOLDING PAPER CARTONS

BY WILLARD F. DEVENEAU

WHILE rapid strides have been made in all kinds of packages, the development of the folding carton from an inexpensive and ofttimes cheap-looking container to a real place in the field of self-selling packages is significant. The roll call of manufacturers utilizing folding cartons today is almost as wide as industry itself, varying from the makers of penny goods to those making products costing American consumers $1.50 or better, or in terms of the products themselves from absorbent cotton to waffle irons, and from microscopic lenses to the loveliest of cosmetics.

The advantages claimed for folding cartons are:

1. Minimum of original package costs.
2. Ease of handling and shipping.
3. Economy of storage-space and warehousing expense.
4. Suitability for large or small production, and manual or machine-filling operations.
5. Ready adaptability to a large number of products, varying widely in size, shape, weight and general characteristics.
6. Ability to build added value into a product, in the consumer's eyes, through giving it better appearance, increased interest, larger size and greater convenience.
7. Giving a line of products a definite family re-

semblance, thus enabling the "leader" to carry the lesser known products to a point of acceptance and purchase.

8. Ready accessibility, so that the consumer may examine the product before purchasing.
9. Ideally meets the requirements of retailers from an identification, inventory, storage and display standpoint.
10. Possessing to a high degree the ability to catch the eye of the consumer in a store, encouraging her to stop, examine and finally sell herself, without the aid of the clerk, as a direct result of the carton's selling message.
11. Susceptible to reproduction of almost any kind of a decorative design, from plain type printing on plain white or colored board, to multicolor process printing or lithographing.
12. Assurance that the product will reach the consumer's hands in the same attractive manner in which it left the manufacturer.

A general criticism of all manufacturers of packaged goods is that the majority do not give the same careful and thoughtful consideration to the package that they give the product. True it is that the product must give satisfaction to the consumer, and therefore must be right, but to what avail are careful selections of raw materials, expensive laboratory tests and the other familiar tests of product development, if the package is so weak, from a self-selling viewpoint, that consumers never even become conscious of its existence? It is the combination of a product that is right, and a package deliberately designed to appeal to consumers in terms of their own selfish interests, that makes them stop, look and buy and brings success and satisfaction to manufacturer, jobber, dealer and consumer in like measure.

There are many practical facts which the manufacturer must assemble and analyze for himself before he can safely rush into the development or judging of the mechanical or artistic design of his package. A few of the major points are itemized:

1. What is the product? A luxury? A necessity?
2. What are the advantages for the consumer in the purchase and possession of the product?
3. What competition will the product have to meet and overcome?
   (*a*) Direct—from similar products
   (*b*) Indirect—from dissimilar products claiming the consumer's dollars
4. What is the simplest selling appeal for the product?
5. Where will the product be sold? Nationally or sectionally? In the cities? Towns? Villages? Farm communities?
6. Who will buy it?
7. Why will they buy it?
8. What size unit will they buy? 1st choice? 2nd choice?
9. Where will consumers buy it?
10. How will consumers be made conscious of the product?

Having determined these basic facts, and set them down in writing, the manufacturer can then safely proceed with the next logical step: *Size and Form of the Package* (mechanical construction). There are three important viewpoints to be considered in this mechanical stage:

1. *Consumers:* the package must meet the requirements of:

a. Attractiveness of construction.
b. Ease of access and use.
c. Generally accepted unit of purchase.
d. Protection of the product.
e. Requirements of storage in home pantry, medicine chest, tool kit, etc.

2. *Retailers:* the package must be mechanically designed to:

a. Meet requirements of handling and storing, taking the least effort, time and space.
b. Ready display on shelves, in show cases, on counters, etc.
c. Be of a size that occupies the least front footage of display space.
d. Be of a unit that is readily acceptable to the dealer's customers, without argument or repacking.
e. Allow for examination of contents before purchase with least trouble to the dealer.

3. *Manufacturers:* the package must meet the requirements of:

a. Economy in package cost.
b. Economy in production operations.
c. Economy in storage space.
d. Adaptable to existing filling machinery.
e. Adaptable to existing shipping containers.
f. Ease and economy in handling.
g. Made of readily available materials from several different and convenient sources.

With these mechanical considerations clearly stated, and an actual sample of the product before him, practically any carton manufacturer can make an intelligent recommendation, in the form of one or more blank dummies, submitted without charge or obligation. There is seldom only one way of packaging a product, and this gives rise to the mechanical ingenuity of the carton manufacturer to suggest several different styles of packages, help the prospect to make a wise selection and thereby deserve his patronage, by having established confidence in the real ability to serve.

While the carton manufacturer is usually well qualified to recommend the type of boxboard best suited for a particular package, there is a minimum of information the package user should profitably know

to help him arrive at an intelligent decision on the board stock to be used for his packages.

So long as folding cartons were viewed primarily as containers, to be purchased as cheaply as possible, inexpensive boxboards, such as manila lined chip and bleached manila, with either a chip or news back, were universally used. However, when it became recognized that cartons could be made so attractive that they would act as salesmen for the products they contained, greater attention was centered on the appearance of the package, with a corresponding demand for higher grade and whiter, cleaner boxboards.

Having completed the important preliminaries of (1) defining the marketing job to be done, and (2) the mechanical construction that will best meet the needs of the three different factors in the flow of merchandise from maker to user, the next step is the development of the decorative and copy treatment or design.

On practically all folding cartons there are six spaces available for such treatment: (1) front panel; (2) rear panel; (3 and 4) side panels; (5) top panel; and (6) bottom panel.

The custom of repeating the front panel design on the rear panel is growing in popularity, inasmuch as this facilitates display on the dealer's shelves, with the least effort on the part of the dealer on his clerks to make sure that the front panel always faces the consumer in the store. The side panels can effectively serve, on the one hand, to give necessary information about how to successfully use the product, and, on the other, to do a selling job on other products in that particular line. The top panel has but one function, namely, identification of the product. The bottom panel has less value than the others, due to the fact that it is hidden from view most of the time, serving as the base or foundation on which the carton stands. While many manufacturers leave it blank, it does offer an excellent location for an institutional message, telling something of the Company behind the product, as well as listing other items or products in the line which it will profit the consumer to know about and use.

It is generally conceded that it is a safer policy to first determine the copy that shall occupy the various positions on the carton, and then proceed with the artistic and illustrative treatment, than vice versa. A safe rule in writing package copy is to first write it out in as many words as it takes to tell an interesting, clear and concise sales story that will "make sense," and then by intelligent elimination reduce it to the smallest number of words possible. If this produces too much copy to fit on the carton, without giving it a crowded appearance, it is far better to place it on a package insert, where it may be treated in as much detail as necessary, utilizing the various carton panels for attention-arresting and sales-compelling phrases, referring to the "enclosed insert for complete directions and uses."

The color scheme to be utilized will be determined by the nature of the product, its fundamental selling appeal to the consumer, and the impression that the folding carton must make on the consumer. To the manufacturer who does not know the psychology of colors it is much safer and more profitable to entrust this to competent counsel, than to blunder in, "playing hunches" or catering to one's own likes and dislikes.

Modern packages that sell themselves on sight will be found to have one characteristic in common—they are stripped of all superfluous decorations and copy, and convey to the consumer, in few words but very much to the point, a sales-compelling story that has a distinctly selfish appeal to the consumer, that immediately stops him, interests him and leads him to buy. The decorative treatment, whether it be solid panels, bands, borders or illustrative material of some nature, must serve the purpose of arousing the consumer's attention, which through the copy leads the prospect to the ultimate goal—a buying decision. Many packages, now on the market, excel in artistic designing, but from a self-selling viewpoint are "beautiful —but dumb." The ideal package arouses attention to itself through its color and decorative treatment, and then leads the prospect attractively and directly to the copy message, which does the informative and persuasive job of bringing conviction to buy. The dumb package is so beautiful that while it attracts attention, it never gets beyond that point, for the package beauty overshadows the copy message, and it is rightfully judged a package-design failure.

The sound judgment and experience of representative carton manufacturers is readily available to any one having a packaging problem. In most cases best results will be obtained by furnishing the carton manufacturer an actual sample of the product, and capitalizing on his experience for the type of mechanical construction best suited for the particular package, as well as style and weight of folding boxboard to be used.

In addition to this mechanical design service, some of the more progressive carton manufacturers have trained merchandising men and artists on their staffs to plan and execute the decorative scheme, write the necessary copy, select the best type and otherwise do a complete job from start to finish. It should be borne in mind that "any package design is as good or bad as the facts on which it is based." This places a responsibility on the manufacturer, seeking help on the creation and design of a practical and successful folding carton, to furnish the supplier with all available facts about the product and its marketing, as indicated in the first section of this article.

If the manufacturer feels it desirable to have a professional package designer do the design job, on the basis that he can approach it from an impartial, unprejudiced and unselfish viewpoint, he has three immediately available sources:

1. Package designers, operating on a fee basis, working independently of any manufacturer, who render professional advisory service on every phase of the package.

2. Advertising agencies and marketing counsellors, many of whom have special packaging executives on their staffs.

3. Commercial artists, some of whom through past experience are particularly well fitted to advising on package design and development work.

The final acceptance and adoption of a package design rests with the manufacturer, and unfortunately the majority of them are totally incapable of passing judgment. Costly experience has amply demonstrated that many a perfectly grand looking package, exhibited on a broad expanse of mahogany desk or conference table, loses all of its appeal and pulling power when surrounded by rival brands on a dealer's store shelf.

Supposing the new or re-designed package is beautiful, flattering to the manufacturer and loudly praised by his associates? In present-day merchandising it has been found that there is a new, better and more effective judge of any package, namely, the consumer. Trained through years of advertising and other improved educational opportunities, the consumer is quick to register his approval or complete ignorance.

In every retail establishment today a bitter battle is being waged. The Battle of the Brands—a race for consumer's attention, acceptance and purchasing. In order to win, the package must be styled (designed) to harmonize with the pleasure, benefit or satisfaction that the possession and use of the product will bring the consumer. The final judgment of the value of a carton design rests, therefore, with the consumer. So design your cartons that they please consumers, and sales readily register their approval. Trust your own judgment, and make your selection to please your own selfish viewpoint, and you are courting lost sales and diminishing volume in the products you package.

PARAFFINED CARTONS FOR FOOD PRODUCTS

BY WILLARD F. DEVENEAU

WAXED or paraffined cartons were developed to fill a definite need, which had five peculiar characteristics:

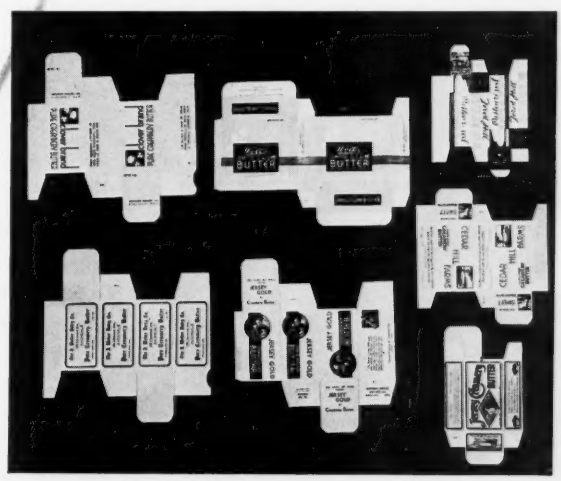
1. Maintaining and protecting a moist, perishable product within the walls of its own original package.
2. Protection against the penetration of moisture, from the outside, through the walls of the original package (as in iced refrigerators).
3. Maintenance of the original sweetness and purity of a manufactured product against contamination by outside foreign odors (such as fish, onions, cabbage, etc., for which butter has a natural affinity).
4. A practical package for perishable and greasy products, fitting in with manufacturing operations, shipping, retail store handling, storing, sale and display, and convenience to the ultimate consumer.
5. Economy in labor, container, shipping and manufacturing costs, so that perishable and costly products may be swiftly, economically and attractively marketed to the general public.

While, with the development of the packaging art, new products are being constantly developed, the major ones especially adapted to be packaged in paraffined cartons are: Butter, oleomargarine, ice cream and sherbets, lard, vegetable shortening, smoked meats—such as bacon, sausage, etc.—and salted nut meats.

The product to be packaged will determine the style, size, stock and other characteristics of the particular paraffined carton. In general, there are three major classifications, as follows:

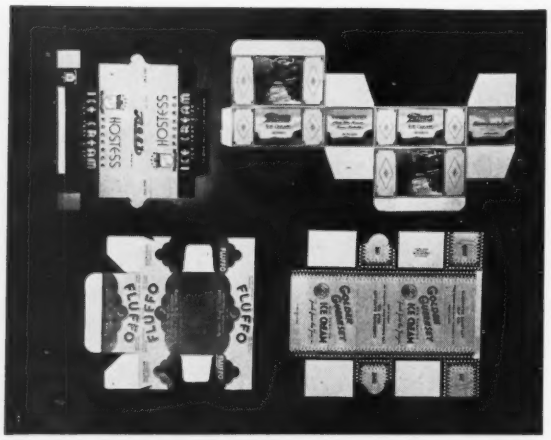
1. *Butter Cartons.* The paraffined carton is the most practical method available for packaging butter in prints; whether one pound solid, two halves or four quarters. The carton combines protection of contents, ease of handling, sanitation, identification and general attractiveness. Butter cartons are made in four principal styles:

1 lb. 4½ Panel (Wrap Style)—2 9/16 in. high x 2 9/16 in. wide x 4¾ in. long. Used for packaging a one-pound solid brick of butter, which is wrapped in parchment paper before being inserted in the carton. This style carton is usually filled (wrapped) by hand.



Top row, left to right: 1-lb. Automat style and 1-lb. Eastern Flat type. Lower row, left to right: 1-lb. 4½ Panel style and 1-lb. Glued style. The three cartons at the right, from top down, are: ¼ lb. Wrap style, ½ lb. Wrap style, and ½ lb. Glued style

1 lb. Automat—2⅝ in. high x 2⅝ in. wide x 4⅞ in. long. Derives its name from the fact that it is filled on an Automat cartoning machine, which wraps four quarter-pound sticks in parchment paper and inserts them in the carton. May also be used to package two half-pound prints. The Automat is the same style carton as the 4½ Panel the dimensions being a trifle larger to allow more room than is required for a one pound solid brick of butter. One of the inside end flaps has a crescent cut out to facilitate ready closing of the carton on an automatic filling machine.



Top row, left to right: Linerless style, ice cream carton, pint size; Trunk style, quart size. Lower row, left to right: Peters style; Linerless style, quart size

1 lb. Glued—2⅝ in. high x 2⅝ in. wide x 4¾ in. long. Used for packaging four quarters, two halves or one pound solid. Usually filled by hand. When used exclusively for solid pounds is made in a size 2 9/16 in. x 2 9/16 in. x 4¾ in.

1 lb. Eastern Flat—1 5/16 in. high x 4¾ in. long x 5⅛ in. wide. A new style square flat carton, offering more pleasing proportions than the ordinary square brick style, with excellent display value on the front and back panels. Made both in glued and wrap styles, and usually holds four quarter-pound sticks of butter.

Smaller Sized Butter Cartons. There is a limited demand for smaller sizes which are usually made as follows:

½ lb. Glued Style—1⅜ in. high x 2 9/16 in. wide x 4¾ in. long; ½ lb. Wrap (5 Panel)—1 5/16 in. high x 2 9/16 in. wide x 4¾ in. long; ¼ lb. Wrap (5 Panel)—1 5/16 in. high x 1 5/16 in. wide x 4¾ in. long.

Both styles are used, in the ½ lb. size, for either a half-pound solid or two quarters, but usually for solids. These are all filled by hand.

2. *Ice Cream Cartons.* Cartons offer the ice cream manufacturer a clean, convenient, attractive, practical and economical method of packaging his ice creams, sherbets, ices, spumoni, etc., *at the factory* in consuming units, either pints or quarts. The three major styles of ice cream cartons are:

Trunk Style—2¾ in. high x 3½ wide x 6½ in. long, quart size. 3¼ in. high x 2¾ in. wide x 3½ long, pint size.

The quart size is the most popular one for brick ice cream. The ice cream is poured from the freezers in liquid form into metal containers or forms, hardened, sliced (6, 8 or 10 pieces to the quart), the slices then individually wrapped in parchment paper and inserted by hand into the Trunk Style carton.

Linerless Style—2 11/16 in. high x 3½ in. wide x 6 3/16 in. long, quart. 2 11/16 in. high x 3½ in. wide x 3⅛ in. long, pint.

As the name implies, this style requires no inner parchment paper liner, due to the fact that they are made of double bleached sulphite board, which is white on both sides. In regular use, these cartons are closed on one end, from ten to forty-eight are placed in a tray, the ice cream is then poured into them, in semi-solid form, after which the open end is closed, and they are placed in the freezing room for hardening. If filled directly from the freezer, the cartons are handled in a continuous travelling mechanism. Linerless style cartons will be found suitable for either machine or hand filling.

Refrigerator Style—1 17/32 in. high x 3½ in. wide x 5½ in. long, pint. This is a linerless style carton especially adapted to fit into one of the ice cube trays in an electric refrigerator in the home, keeping the ice cream in perfect condition until time to serve. Has enjoyed wide popularity during past three years, as it permits the consumer to keep ice cream for fairly long periods at home, without danger of its softening and becoming unusable. The pint size is preferred, for while the quart size is made it will not fit into the ice trays of many popular mechanical refrigerators.

3. *Lard and Shortening Cartons.* Packaging shortenings in cartons, rather than in tin pails, offers many economies and production advantages, and is consequently gaining in popularity. The most popular shortening carton is the Peters style, so named because it is automatically set up on a Peters machine. This carton has lock ends which are locked on a special machine which assembles the carton and inserts a parchment paper liner for filling. Made in five sizes: 1-, 2-, 3-, 4- and 8-lb. The top of this Peters style carton opens like a Trunk style ice cream carton, facilitating its closing after filling, and giving ready access to the contents by the consumer. Many effective counter and show case displays may be made with the empty shortening cartons, thus assisting in building larger sales through getting products ordinarily kept in refrigerators out on open display in the retail store.

on again.. off again.. Sold again

A Package by Ritchie combining sturdy construction with unusually effective display.

A Ritchie fibre can showing that an economical package can be made attractive.

Famous Pompeian powder box adopted after exhaustive tests proved its consumer appeal.

Sound in construction, attractive in design, a package that protects and one that sells.

Smartly styled, durably made, Ritchie fibre cans are right for all dry food products.

Showing the mechanical skill of Ritchie craftsmen as well as their flair for modern design.

TURN-OVER! Getting your product onto the dealer's shelves and off again . . . into the consumer's hands. The faster and oftener the process is repeated the better. You can speed it up and keep it going with a Package by Ritchie. For Ritchie packages have the display value that secures dealer cooperation, and the subtle attractiveness that prompts consumer demand. They are adaptable to almost every type of product.

W. C. RITCHIE and COMPANY ● 8861 Baltimore Avenue, Chicago

NEW YORK • DETROIT • MINNEAPOLIS • ST. PAUL • LOS ANGELES • MILWAUKEE • ST. LOUIS • FT. WAYNE

Established manufacturers are invited to submit their packaging problems to our designing staff. Ask for free copy of *Packages that Sell*, a brochure full of novel packages and packaging ideas.

XUM

In their manufacture, the cartons are first printed and died-out, after which they pass through a bath of hot paraffine, followed quickly by immersion in frigid water, which "sets" or hardens the paraffine coating, and gives a high gloss. All cartons which are to be paraffined are made of either single or double bleached sulphite (either solid or manilla liner), which is the only type of folding boxboard which retains its whiteness, when coated with hot paraffine. Standard weights are: .016 point for ¼-, ½- and 1-lb. cartons; .018 point for 2- and 3-lb. shortening and pint and quart ice cream cartons; .020 point for 4-lb. cartons and .040 point for 8-lb. cartons.

It has been conservatively estimated that products valued at around one-half billion dollars find their way from point of manufacture to retail stores, every year, packaged in paraffined cartons.

SPECIFICATIONS—CARTONS AND DISPLAY CONTAINERS

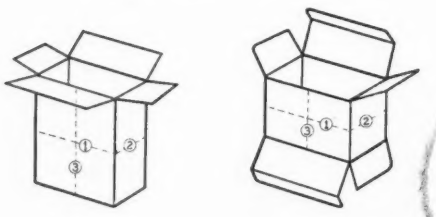
DUE to the lack of uniformity or standard method of specifying the dimensions of a folding carton, causing frequent misunderstandings and errors in the industry, the Paperboard Industries Association adopted at a meeting, held on May 21, 1930, a simplified standard for stating the three dimensions of a folding carton.

Shown below are diagrams indicating, by number, the sequence in which specifications are to be presented. Thus, in the case of either carton or counter display container, the following will apply:

1. The larger dimension at the opening.
2. The smaller dimension at the opening.
3. The third remaining dimension.

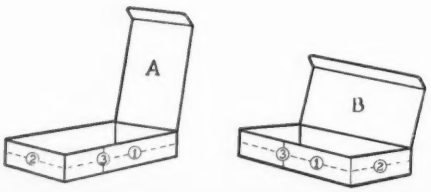
All measurements are understood to be from center of crease to center of crease.

LEFT: SEAL (GLUED) END CARTON
RIGHT: REVERSE TUCK CARTON



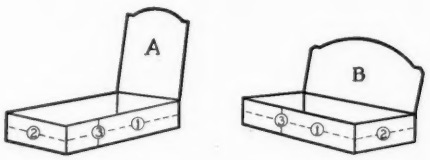
ONE-PIECE BOXES WITH COVERS

State whether or not cover extends from first or second dimension. (That is, whether like A or B.)



DISPLAY CONTAINERS

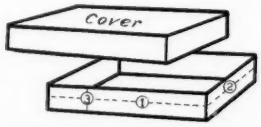
State whether or not display panel extends from first or second dimension. (That is, whether like A or B.)



Adherence to this rule will greatly facilitate understanding and tend to make a uniform system.

TWO-PIECE TELESCOPE BOX

In two-piece boxes dimensions of bottoms are given.

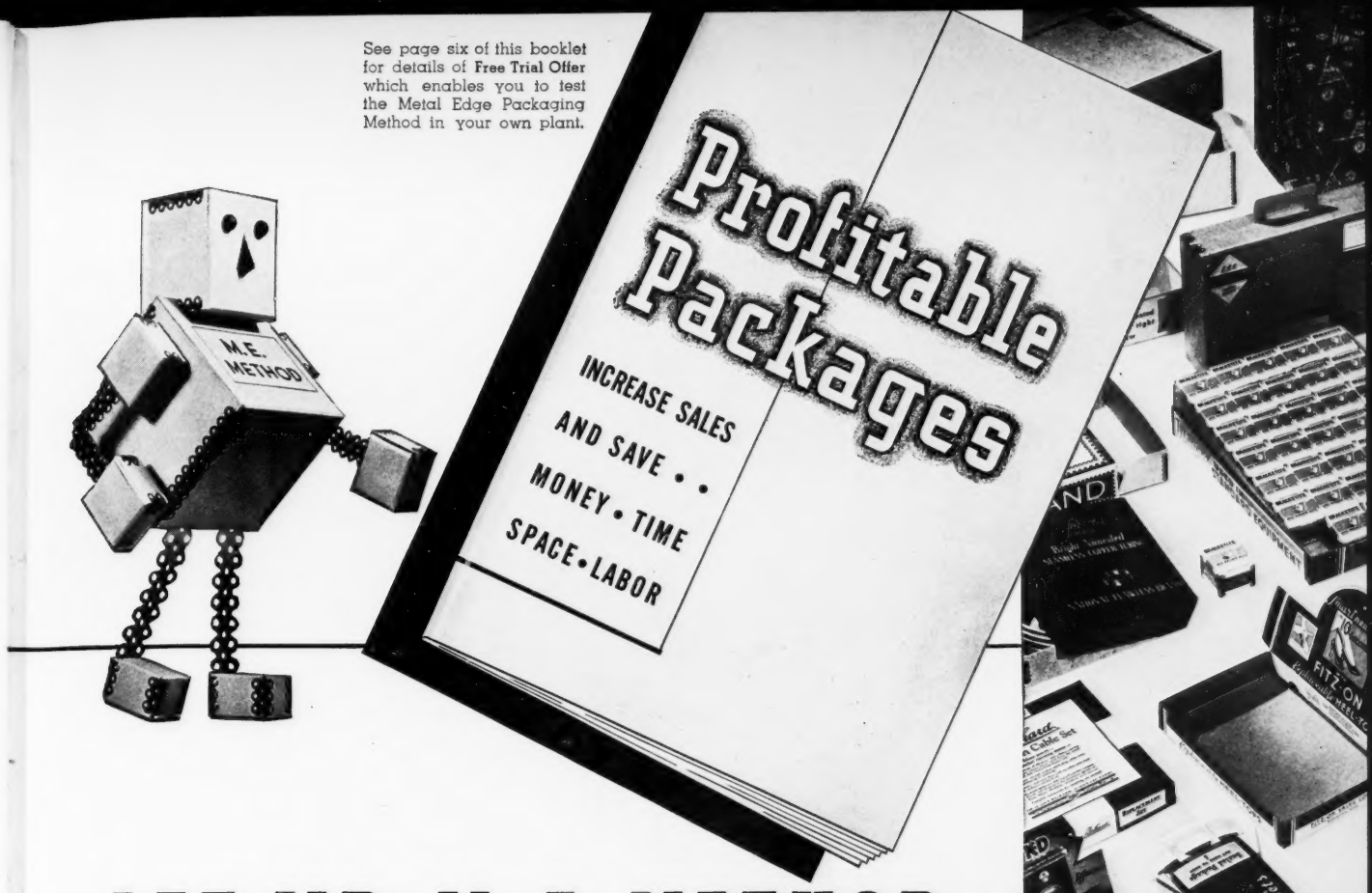


Styles—Cartons and Display Containers

Reverse Tuck Carton

Popular style for low-priced candies, toilet and pharmaceutical articles, extracts and other products. Easily set up by hand, and may be packed automatically. Conveniently opened and closed for removal of contents, as used. Economical in manufacture because cartons interlock.

See page six of this booklet for details of **Free Trial Offer** which enables you to test the Metal Edge Packaging Method in your own plant.



LET MR. M. E. METHOD

point the way to

PROFITABLE PACKAGES

Mr. M. E. Method knows packaging.

With the greatest of ease he'll save you 80 to 90% of the space usually required for storage of made-up paper boxes.

He'll follow up by doing away with box delivery delays, reducing package inventories, eliminating spoilage and waste.

At the same time he'll provide you with the **strongest** paper boxes — boxes of character, that not only give your product maximum protection but have unusual display and selling value as well.

Many nationally known concerns — such as General Motors, U.S. Rubber, Johns-Manville, John Wanamaker, Remington-Rand — by the Metal Edge Packaging Method assemble their own paper boxes in their own plants just as they need them. In addition to the advantages mentioned, some report packaging economies running into thousands of dollars a year.

An illustrated brochure, "Profitable Packages," tells the whole story . . . is yours without obligation for the asking. Please write for it.

National Metal Edge Box Co.

330 North 12th Street **Philadelphia, Pa.**

METAL EDGE . . . STRONGEST PAPER BOX

XUM

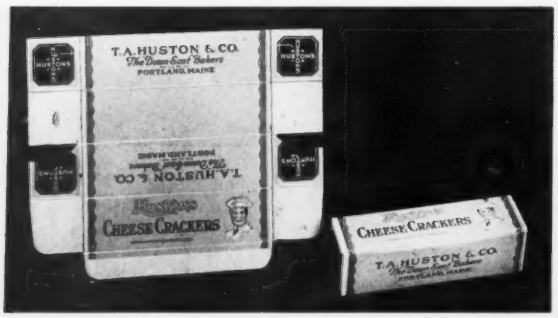
Reverse Tuck Carton with Arthur Locks

Same as reverse tuck, except bottom side flaps lock to prevent heavy contents from falling through bottom. Used principally for packing jars and bottles containing toilet preparations, medicines, condiments and other heavy articles. Sometimes made with Arthur side locks both top and bottom, to hold flat round jars and similar objects securely.

Tuck Top, Novelty Lock Bottom Carton

An adaptation of both styles, permitting the security of the Greenleaf lock on the bottom and the convenience of the easily opened and closed tuck top. Used for the larger candy packages, heavy food products, shelf containers and many other purposes including individual sales units.

Colonial Lock Blank



A folding blank, supported when set up by interlocking hooks and catches, requiring no gluing either by the box manufacturer or the user; very economical because of sheet layout. In universal use by biscuit and cracker manufacturers and is generally enclosed in a sealed, printed wrapper.

Peters Lock Blank

This is similar to the Colonial lock blank except for the machine set-up. Likewise used extensively by biscuit and cracker manufacturers, and generally enclosed in a plain or printed wrapper.

Novelty Lock (Greenleaf) Carton

Locks at each end securely. Extensively used for packing dried fruits and other heavy or bulky food products; also as shelf containers holding individual packages in sales units as shown.

Tube and Slide Box

Consists of a folding blank variously contrived, to be inserted in a tube. Its two-piece construction makes it substantial enough to be carried without damage in the pocket of the consumer. It permits the easy removal of one article without spoilage of those remaining.

BURT BOXES BOOST BUSINESS!

Something new! Something different! A package that will attract attention and then keep the product in the eyes of the consuming public! That is the problem of every merchandiser. It is doubtless *your* problem.

If what you need is a small set-up paper box, we are completely equipped to assume full responsibility for you. From the inexpensive automatic utility box to the high-class hand-made container, our experienced workers are prepared to give you the utmost in service and satisfaction. Let us hear from you.

BURT
TRADE MARK

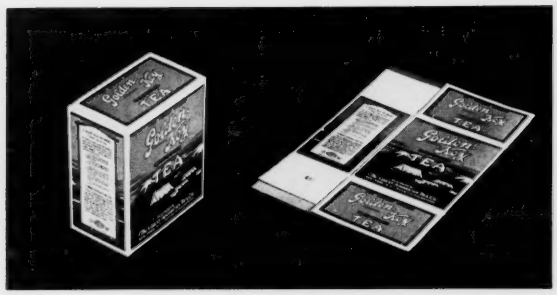
F. N. BURT COMPANY LTD.

500-540 SENECA STREET, BUFFALO, N. Y.

Straight Tuck Airplane Carton

Has no advantage over the reverse tuck carton except that it is required for operation on some automatic machinery. It is extensively used and is particularly adaptable to high speed automatic cartoning. Must be made with right and left glue seams to secure the economy of interlocking.

Seal End Carton

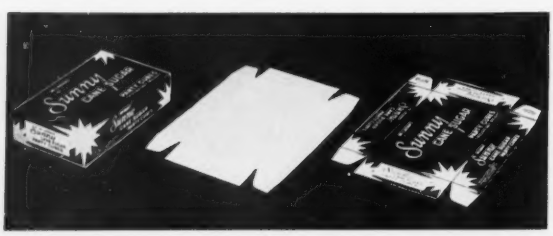


The most popular style carton for packing flour, cereals, sugar, salt, teas, coffees, spices and many other food products, soap powders and other cleansing preparations. Difficult to seal by hand; but packed and sealed on automatic machinery it reaches the consumer with the contents untouched by hands and well protected under most conditions.

Brightwood Blanks

Brightwood machinery is installed in the user's plant for the purpose of setting up and gluing two styles of blanks, both of which are illustrated.

The one-piece blank is folded and automatically glued along the vertical panels by a carton forming machine, which automatically fills and seals it. It is necessary for the user to have sufficient production to gain the economies made possible by the use of the automatic equipment.

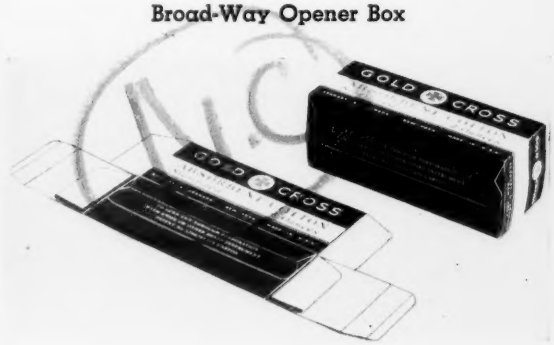


The two-piece style machine is fed blanks which are automatically glued into box and cover. The types are various—the cover may fit over the box to its full length, or only part way. Both one-piece and two-piece are adaptable to a wide variety of products and offer economy where there is sufficient production.

Seal Bottom, Tuck Top Carton

Handy as a pocket package for cough drops and small candies as well as for various other products. Has the advantage of the solidly sealed bottom and the convenience of the easily opened and closed tuck top for the free use of the contents. Packed on automatic machinery. Not adapted to hand packing, because of bottom sealing operation.

Broad-Way Opener Box



A new development in cartons that permits of inexpensive automatic filling through the ends of the cartons after which the ends are sealed and the box is opened the broad way, hence the name.

There is no better means of making your package stand out from the crowd than a

LAMINOID

LABEL, WRAP OR FANCY PAPER WRAPPER

Check this claim as a general proposition, by examining this insert. LAMINOID is employed on many well-known wraps and labels. Note their sharp colors, their brilliant surfaces, their perfection after you have put on embellishments.

Then check LAMINOID, in your own office and with your own presses.

WRITE, WIRE OR PHONE

ROBERT C. MILLER, Inc.

41 PARK ROW • NEW YORK CITY • BArclay 7-7488

Sales Representatives for

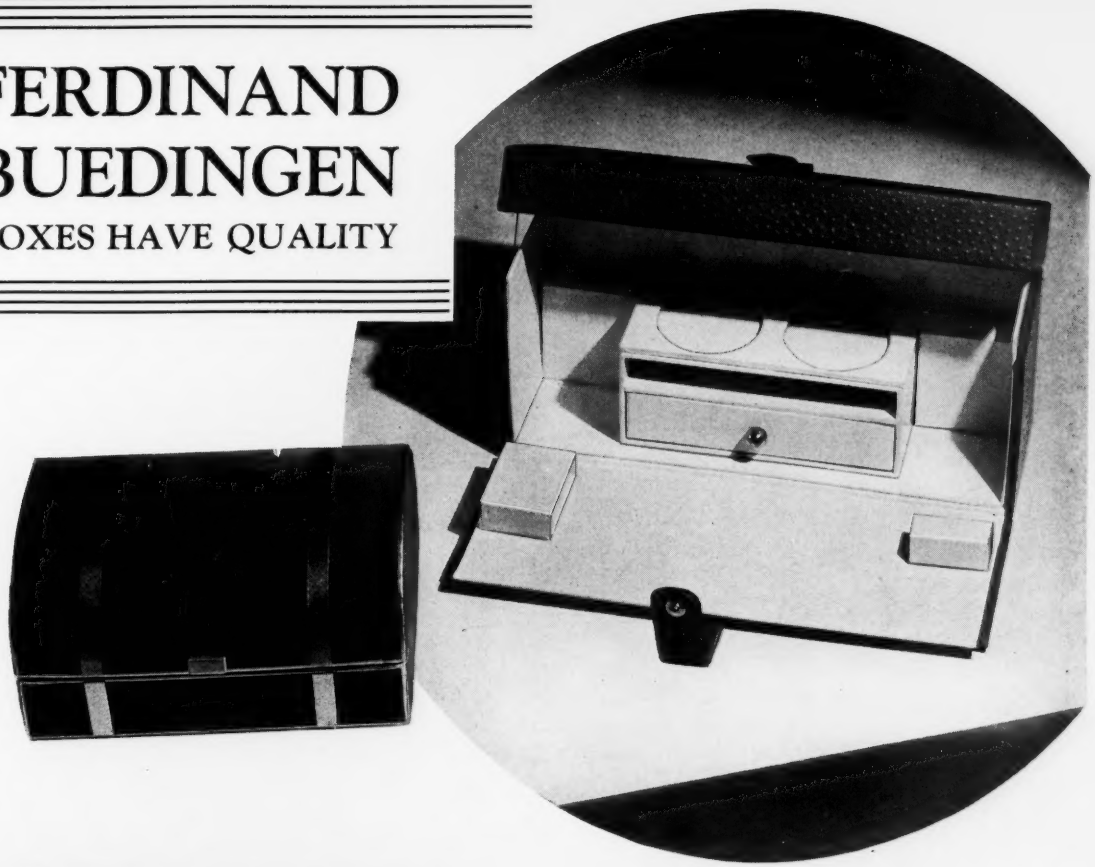
LAMINOID DIVISION

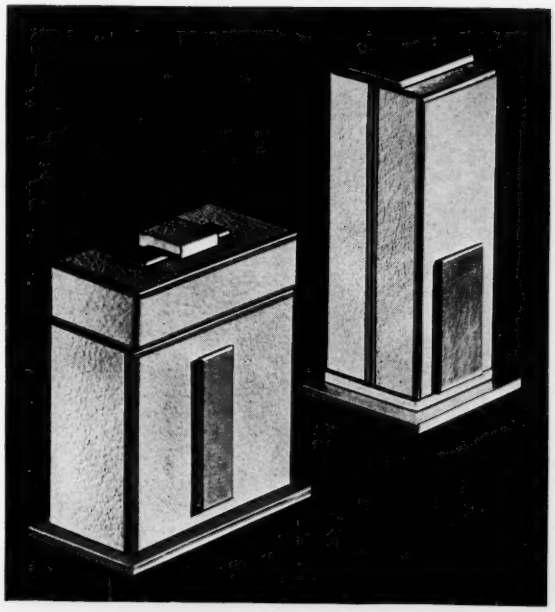
SHERMAN-OWENS, Incorporated

HOBOKEN, N. J.

FERDINAND BUEDINGEN

BOXES HAVE QUALITY



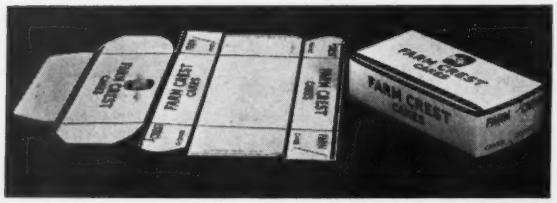


The extra care and skill of Ferdinand Buedingen designers and workers, reflected in the quality of every box that leaves our plant, fully justifies a price premium. Yet our customers find that it costs them little or no more to enjoy all the well-known Buedingen advantages. This is because, through the years, we have learned how to produce greater display values and greater sales appeal, without adding to cost.

We have proved this claim, time and again, to our many long-term customers. May we have the opportunity to prove it to *you?*

Ferdinand Buedingen Company, Inc.
Rochester, New York

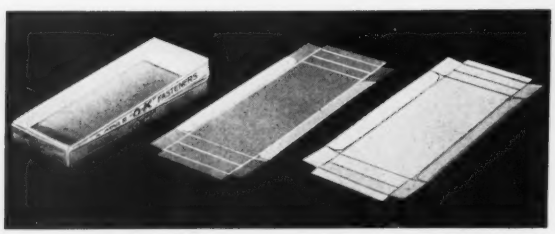
One-Piece Two and Four Hook Catch Blanks



An economical style of box, in which hook catches at the four corners hold the box in place; very economical to manufacture, but difficult to set up. This

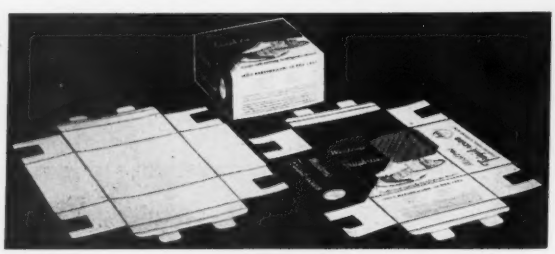
style is not sufficiently durable to stand transportation or rough handling, but is a particularly suitable box for the baker, where small quantities are required in a number of different sizes.

Two-Piece Full Telescope Overlapping Ends



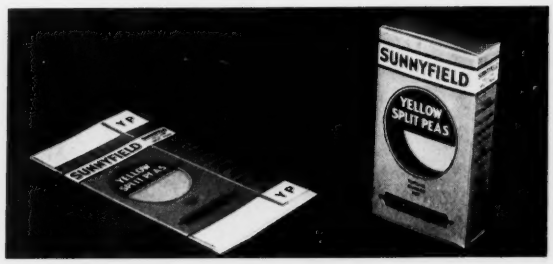
A good substitute for a solid box—is economical to manufacture, easily set up by hand, and makes a very neat, substantial package. It is used very frequently for candies, also for dry goods, etc.

Two-Piece Overlapping Bolt End Box



This box is very secure. It is used extensively for packing hardware and other heavy matter where strength of the full telescope feature is desirable.

Transparent Cellulose Window Cartons



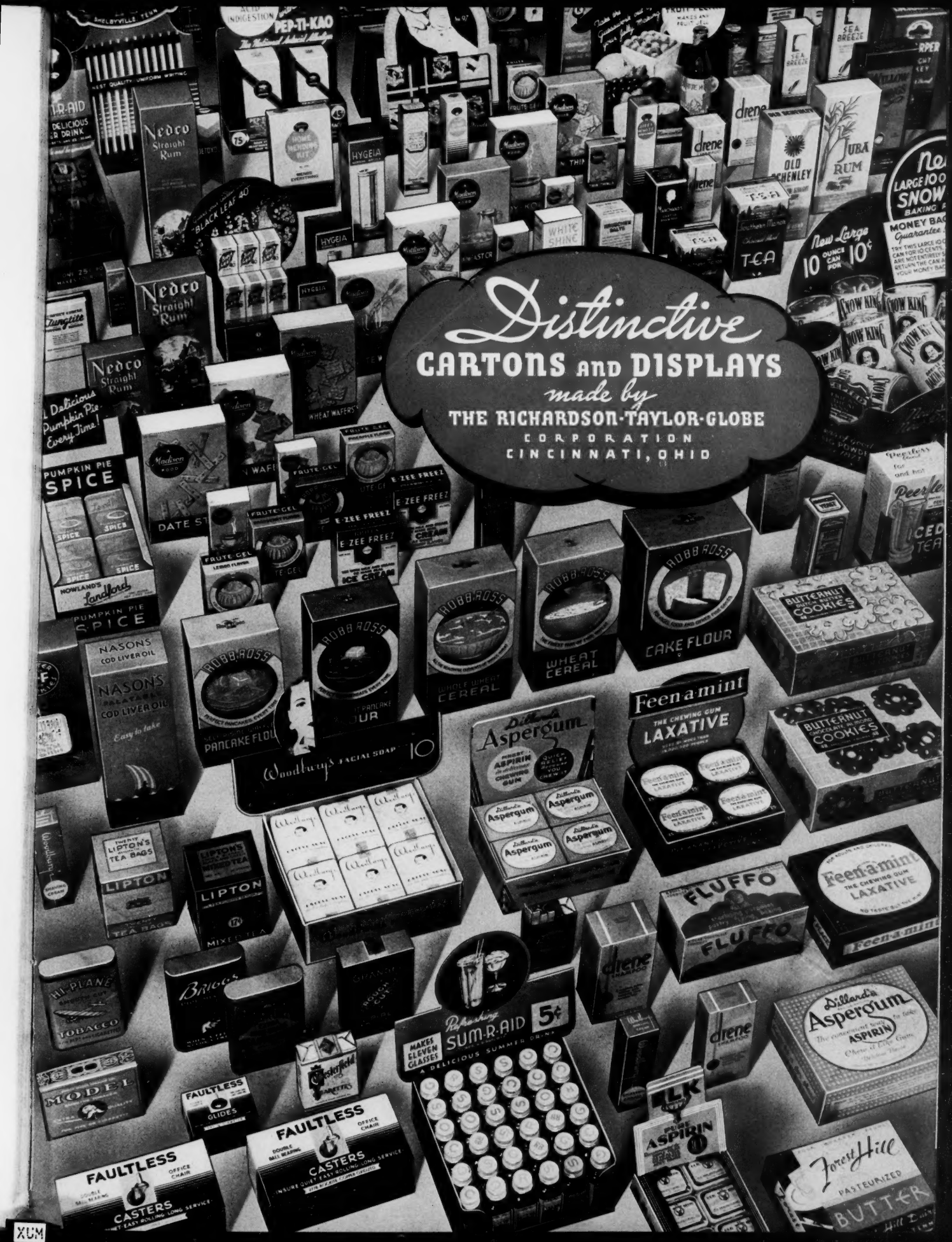
Manufacturers of candies, cakes and other products usually bought on sight are desirous of having their folding cartons made with a window to reveal the contents. Formerly, gelatine was used, but of recent years transparent cellulose has made rapid strides and is often used in its place.

Pouring Spouts for Seal End Cartons

There are a number of different devices applied to the top panel of an ordinary sealed carton to permit of easier access to the contents, but one of the most unusual is the one illustrated. The pouring spout is fashioned from the top flaps of the carton, and when properly operated by the housewife, is formed into a spout which may be opened and closed at will. Patented.

Climax Counter Display Container

Very simple to set up. Lies flat on the counter. A protective cover is necessary, making the box more expensive than the panel-fold which has no cover. Requires printing and coating one side only. Display panel is equipped with supporting flap.


Distinctive
CARTONS AND DISPLAYS
made by
THE RICHARDSON-TAYLOR-GLOBE
CORPORATION
CINCINNATI, OHIO
PEP-TI-KAO
Nedco Straight Rum
HYGEIA
"BLACK LEAF 40"
JUBA RUM
OLD CHENLEY
T-C-A
New Large 10 OUNCE CAN FOR 10¢
SNOW KING
WHEAT WAFERS
PUMPKIN PIE SPICE
Landford
NASONS COD LIVER OIL
ROBB ROSS
WHEAT CEREAL
CAKE FLOUR
BUTTERNUT COOKIES
Woodbury's FACIAL SOAP 10
Feen-a-mint
THE CHEWING GUM LAXATIVE
Dillard's Aspergum
ASPIRIN
LIPTON'S TEA BAGS
LIPTON TEA
FLUFFO
drene
Forest Hill
PASTEURIZED
BUTTER
SUM-R-AID 5¢
MAKES ELEVEN GLASSES
A DELICIOUS SUMMER DRINK
FAULTLESS
CASTERS
OFFICE CHAIR
DOUBLE BALL BEARING
EASY ROLLING LONG SERVICE
MODEL
HI-PLANE
TOBACCO
BRIGGS
Chesterfield
CIGARETTES
PURE ASPIRIN
MONEY BACK Guarantee

BOXBOARDS FOR UNUSUAL PROBLEMS

GREASENE . . .

For Packaging Products Containing Grease or Oil

PRESERVES THE PRODUCT by keeping moisture and natural oils from being absorbed into package walls thru capillary attraction.

PRESERVES PACKAGE APPEARANCE by preventing discoloration.

ECONOMICAL AND SAFE . . . eliminates inner liners . . . reduces package returns.

Write for Literature on

GREASENE BOXBOARD

LITHWHITE . . .

For "Stepping Up" Package Appearance Economically

A SNOW WHITE BOXBOARD
A NEW PROCESS

A more constant uniformity in shade.

A greater brilliance of printed colors.

• *Write for Information On How You Can See Your Cartons Proofed Up On*

LITHWHITE BOXBOARD

HYDRO-TITE . . .

A Highly Moisture Proof Boxboard

FRESHNESS OF PRODUCTS PRESERVED BY

1 Eliminating Outside Moisture

2 Retaining Inside Moisture

3 Stopping Detrimental Light Rays

SOLVES WEIGHT LOSS PROBLEM OF DEHYDRATION

WRITE FOR FURTHER INFORMATION ON—

HYDRO-TITE BOXBOARD

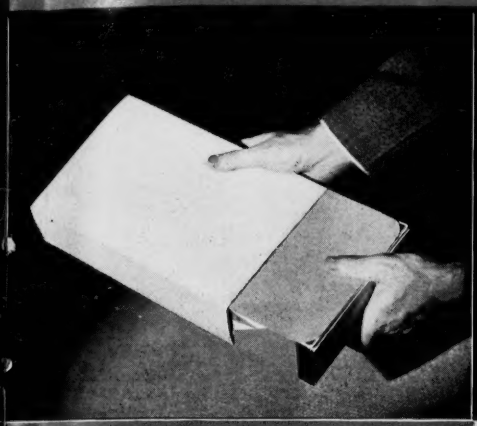
THESE illustrations represent some of the unusual and spe
distinct from the regular line of folding cartons, sui bo
Gardner-Richardson Company one of the largest boar mil
have a problem or inquiry of any kind relating to box oar

THE GARDNER-RICH A

MIDDLET WN

XUM

DISPLAYS AND PACKAGES FOR SPECIAL OCCASIONS



TWIN-PAC AUTOMATIC . . .

. . . A Counter Display
Shipped in Set-up Position

•

SOMETHING NEW . . .
MANY VARIATIONS IN STYLE . . .
100% COUNTER SPACE GUARANTEE . . .
BETTER DISPLAY FOR THE PRODUCT . . .
GREATER CONVENIENCE FOR THE RETAILER

•

Write for Literature and Samples on

TWIN-PAC AUTOMATIC DISPLAY CONTAINER

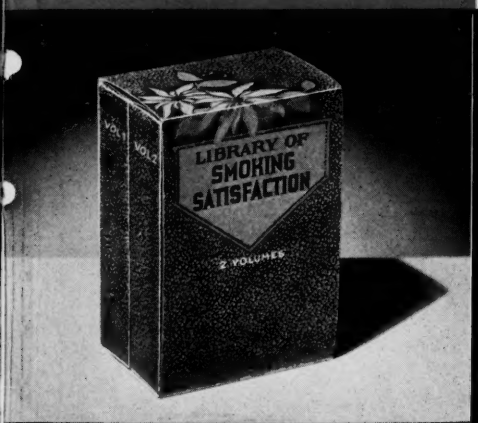
G-R TIER DISPLAY CONTAINER

GREATER VISIBILITY!
MORE EYE APPEAL!

Here is the 1936 Display Container. It can do twice the selling of ordinary displays. For the real sales job that it accomplishes, it is the most economical type of advertising. .

Let Us Adapt Your Product to the

G-R TIER DISPLAY CONTAINER



LIBRARY GIFT PACK . . .

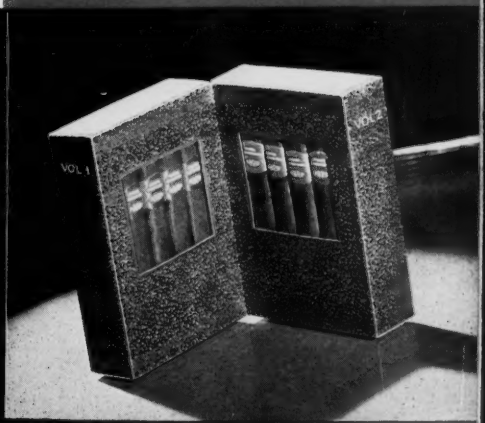
1. *CHANGES ORDINARY ITEMS INTO APPRECIATED GIFTS!*

2. *ADDS A NEW PUNCH TO PRESENT GIFT ARTICLES!*

Here is something new in Gift Packages, and is of economical construction . . . a Two Volume Library made from a single carton and sleeve.

Curiosity and interest of recipient is immediately aroused.

LET US CREATE A NEW GIFT ITEM FOR YOUR LINE



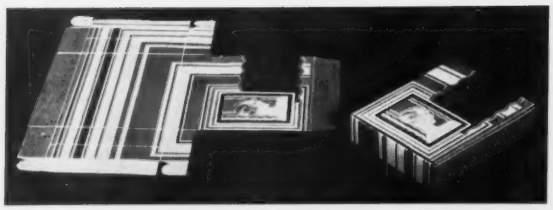
LIBRARY GIFT PACK

special products of our manufacture. These are entirely boxes, butter, lard and egg cartons that has made The mills and folding carton plants in the world. When you oard, our complete packaging service is at your disposal.

ARDSON COMPANY

WN, OHIO *Sales Representatives in Principal Cities*

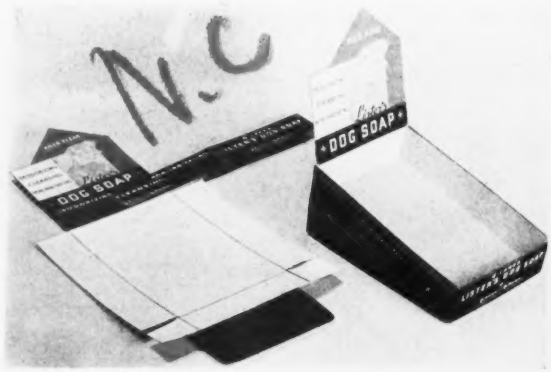
One-Piece Overlapping Sides



One-Piece Overlapping Front

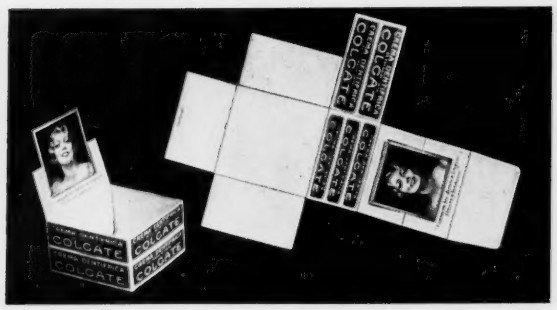
Economical to manufacture and extensively used for display purposes, this box has the added strength of the overlapping front which is not provided in the straight front box. The box can be made with panel-fold style display top, making possible the economy of printing on one side only. Both illustrations above show adaptations of the same type.

Tinsley Counter Display Container



A box of patented design, so contrived that the cover, folding under, proves an easel support to display the goods. A remarkably successful type of display box because of its simplicity in construction, its ease in setting up, and because it has sufficient strength to act as a combination carrying and display box. It is susceptible to fine printing, required on one side only. The display panel is held at the proper angle by a supporting flap. Much of the universal success of this box is due to the fact that it is easily converted from a carrier to a display container by the retailer.

Panel-Fold Counter Display Container

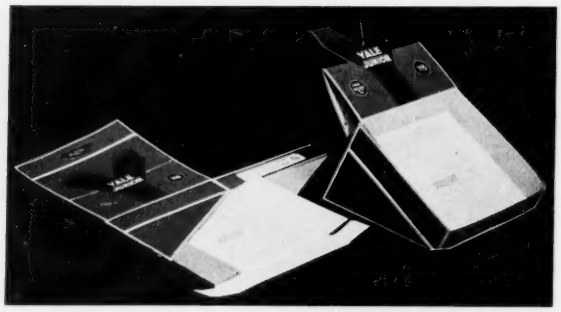


Simple in construction and setting up. Cover is so arranged as to make an attractive display panel. Protective cover is optional. Stands flat on the counter and provides good visibility to the displayed items. Requires printing and coating only on one side of the board, as shown.

Panel-Fold Container with Lock Bottom

Similar in general appearance to the panel-fold, except that the locking device is on the bottom. This makes possible gluing of box on automatic machinery, with resultant speed and economy.

Simplex Counter Display Container



Simple to set up. Special easel feature permits tilting at different angles. Principal feature is simplicity with which dealer may display the goods at an angle. Protective cover is necessary. Requires printing and coating one side only. Display panel is equipped with supporting flap which enables advantageous showing of the advertising message.

THE "Success Roll" OF AMERICAN BUSINESS PREFERS A. C. M. CLAY COATED CARTONS

Successful firms, both large and small, recognize the shelf, counter and window display appeal of attractively cartoned merchandise. They know the advertising value of the greater stiffness . . . the smoother finish . . . the higher brilliance of A.C.M. Clay Coated Cartons.

We believe a consultation (without obligation) with A.C.M.'s expert designers might bring about a distinct improvement in your present packaging . . . and your sales. Write suggesting a convenient time for a consultation at your offices or ours.

Protect your product against counterfeiting. Specify our patented Counterfeit-proof board for your cartons. Complete information on request.

AMERICAN COATING MILLS INC.

CARTON DIVISION

ELKHART, INDIANA

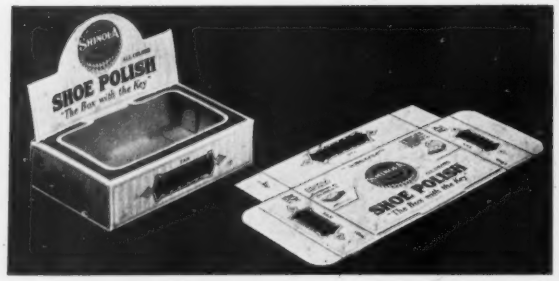
CHICAGO
Wrigley Building

NEW YORK CITY • 22 East 40th Street

ATLANTA, GA.
William Oliver Building

XUM

Five-Panel Counter Display Container

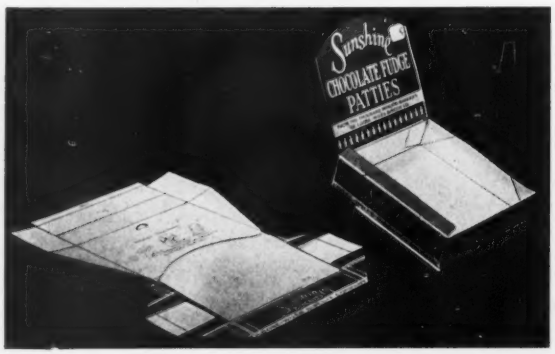


Old established style still in limited use. Requires printing two sides and coating two sides. Somewhat difficult to fill, since the packer must insert goods from side. Lies flat on the counter. Display panel is equipped with supporting flaps which hold it in an upright position at all times.

Tilting Dummy Display

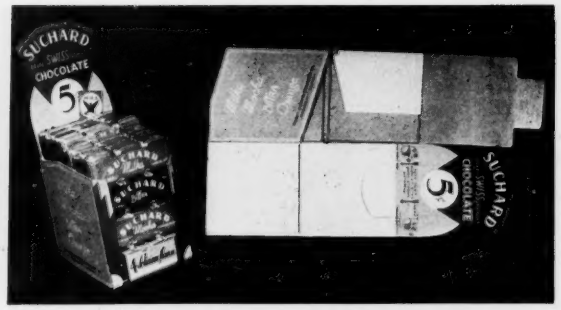
Excellent for perishable articles, like cheese and butter. Shows replicas of the individual packages, but does not hold any goods. Automatically set up by dealer as he places in the side tucks.

Rose Display Container



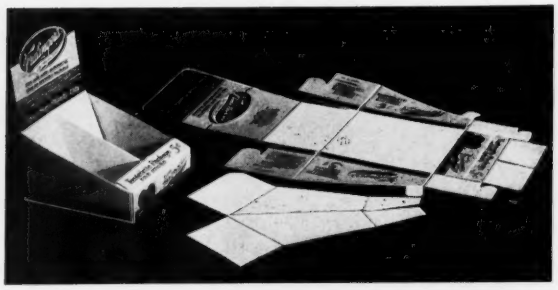
A very effective blank and one of the leading types of display containers. The cover section forms an easel, and is very readily transformed from a shipping box to a tilted display box by the storekeeper. It does, however, require that printing be done on both sides of the board.

Darragh Display Container



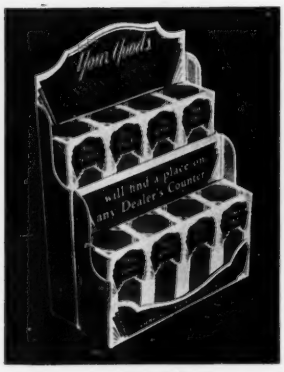
Another recent addition to the display container field, the main feature of which is that the contents when loaded for shipment are in an upright rectangular position, but when the box is set up for display, the contents are thrown to a stacked position and make a very attractive appearance on the counter. Also, the box is so constructed that the display panel is held in a certain position more or less rigidly and does not flop forward or backward.

Gairway Display Container



An effective new type of display container in which the individual contents are packed in a staggered manner for better display. Particularly useful for fragile packages put out in glassine bags. Very easy for the dealer to sell, and the contents are kept in tidy position while on the display counters.

Skyscraper (Broken Back)



A recent addition to the field of counter display containers which displays contents in two tiers and stays on the counter in an upright or "skyscraper" manner rather than the familiar long horizontal shape. Some are made with an easel in the rear to hold the second tier in a raised position. Patented.

DENNISON'S PACKAGING SERVICE

brings to your packaging problem:

EXPERIENCE

Dennison, for 92 years, has been a leader in packaging production.

DESIGNING SKILL

Dennison's artists know how to give your product eye-appeal.

TECHNICAL SKILL

Dennison's engineers save you time and money through production short cuts.

MARKETING SKILL

Dennison's own sales experts apply their experience to your selling problem.

PRODUCTION FACILITIES

Dennison's modern equipment and special machines cut costs and speed service.

for **TAGS**

SEALS

BOXES

LABELS

ENVELOPES

DISPLAYS

PRINTED
WRAPPINGS

Illustration shows some of the work recently done by Dennison.

● See Dennison *first*, about your next packaging job. No matter what it may be, or how *different* and *difficult* it seems, you will find that our experience, skill and specialized production facilities will meet your needs. Why not at least let us go over your packaging problems with you?

There's a Dennison office in every principal city of the country; phone us—or simply fill in the return post-card and mail.

Remember—see Dennison *first*, for Tags, Seals, Boxes, Labels, Envelopes, Displays, and Printed Wrappings!

Here are a few samples from packages produced by Dennison. Check the post-card for further facts of the type in which you are most interested.

Dennison's PACKAGING SERVICE

FRAMINGHAM, MASS.

XUM

BOXES BY BISLER

SPECIALTIES — DESIGNING — PRINTING

G. A. BISLER, Inc.

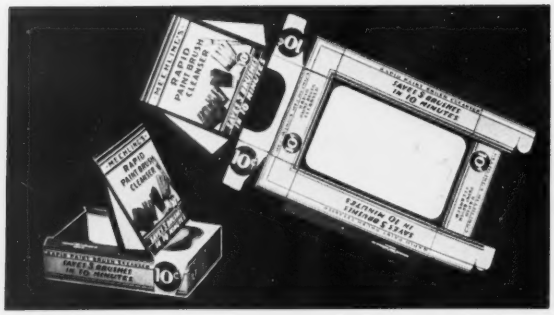
FIFTH & BROWN STS. PHILADELPHIA, PA.

29 WASHINGTON STREET BROOKLYN, NEW YORK.

"BISLER BOXES BRING BUSINESS"

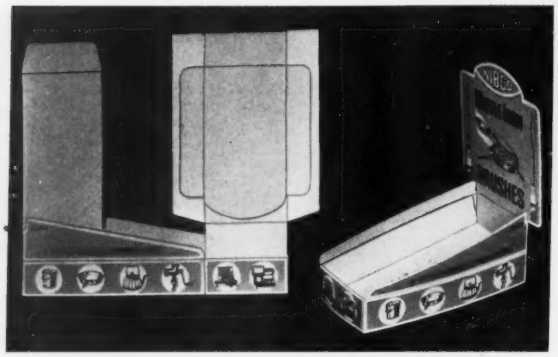
XUM

Display Dispenser



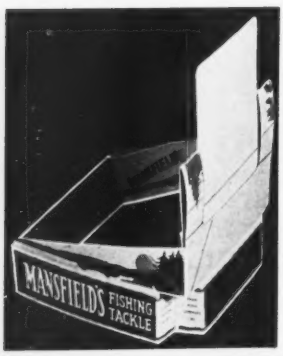
A new departure in counter display containers. Instead of the conventional type of display container which shows goods on display with the display panel in the rear, this container has the display panel part way back. In front of the display panel appear several of the articles on display. The bulk of the product is packed *behind* the display panel making for convenience of the store clerk. The unsightly appearance of half-filled containers is avoided.

Brooks' Display Container



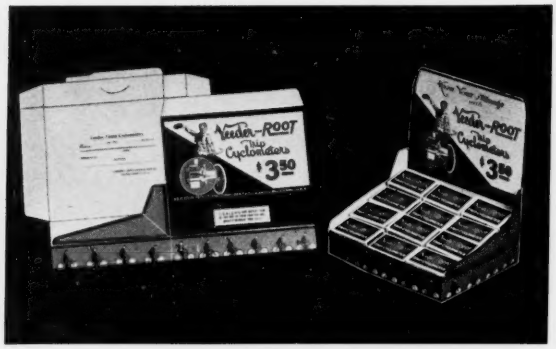
A counter display box complete in itself; that is, no protective cover is necessary. The box is equipped with a tab at the rear of the goods which the dealer elevates and secures in the rear panel. This throws the goods on display to a desirable angle.

Brooks' Simplex Container



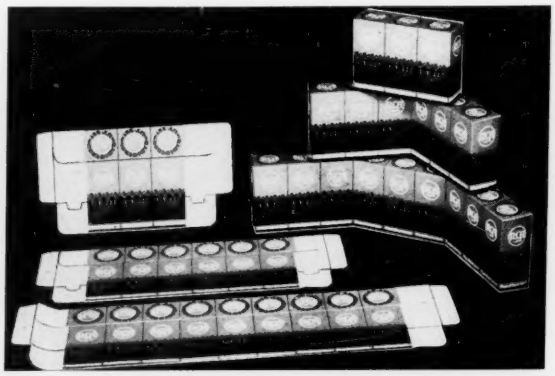
Same style as Brooks' display except that the elevated section is supported by folding in rear corners of base. Made either with single display cover or with fold-over display lid and can be used as a complete shipping unit. Display as well as other Brooks containers shown are protected by patents.

Brooks' Double Cover Container



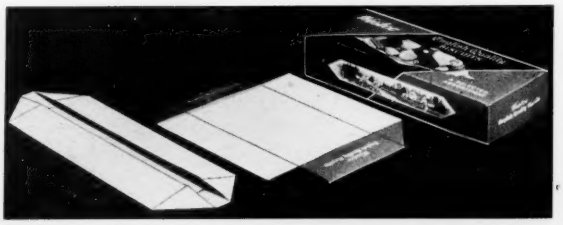
An elevating display in which the retailer must set up the display panel in order to uncover the contents, with a positive wing type support for the elevated section of the box.

Giant Pyramid Window Display Dummy



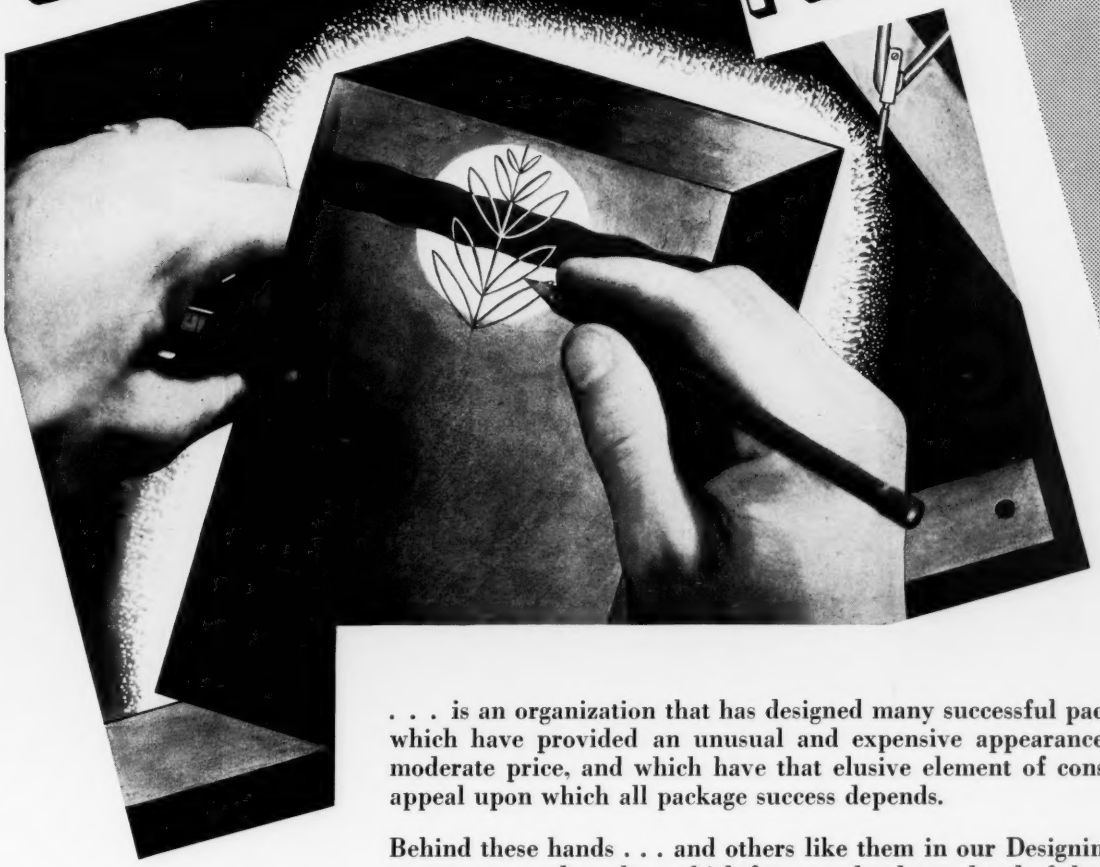
An effective window display in pyramidal form made up of three folding boxes. Distributed in knocked-down form. Easily erected and very stable. The whole unit may be moved from one position in the show window to another without disturbing the form of the display in any manner.

Two-Piece Full Telescope Collapsible Box



These boxes are glued in collapsible form and shipped to the user in that manner. The user merely pulls them open and the boxes are then ready to be filled. The great advantages of this box are that no setting-up machinery is required and it is inexpensive in manufacture.

BEHIND THESE HANDS



. . . is an organization that has designed many successful packages which have provided an unusual and expensive appearance at a moderate price, and which have that elusive element of consumer appeal upon which all package success depends.

Behind these hands . . . and others like them in our Designing Department, stands a plant which for years has been ahead of the times in modern equipment, skilled workmanship, excellence of output.

No wonder so many well-known manufacturers place their entire set-up box requirements in our hands! No wonder so many outstanding packages find their origin on these drafting boards!

We invite you to join this select list of firms. What is your set-up box problem? Write us today.

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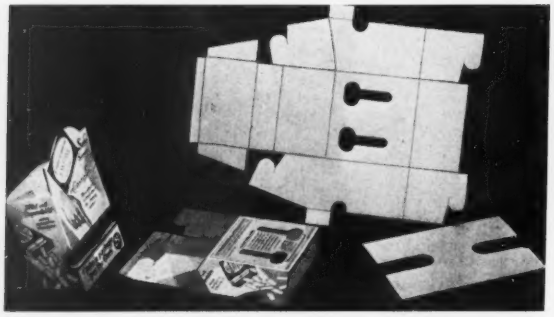
Established 1875

Gravity Dispenser

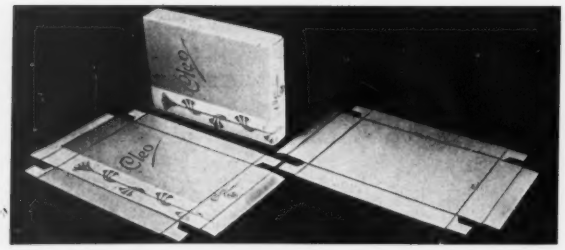


Another type of dispenser which can be equipped with separate dividers when two or more rows are desired for a greater advertising surface. This container can be designed to any desired tilt, and can also be equipped with an easel when the container becomes topheavy. The container also has a sales thermometer in the rear to show when to refill.

Better-View Display Stand

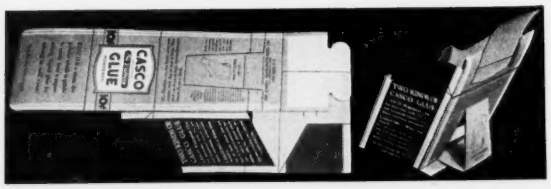
A simple collapsible contrivance used for counter or window display of a two-piece telescope box. Usually made so it will fit within the box. When erected it shows the bottom with the contents showing at an angle, and the cover behind it. The cover is used as a display panel. Makes effective window display at little cost.

Two-Piece Full Telescope Box



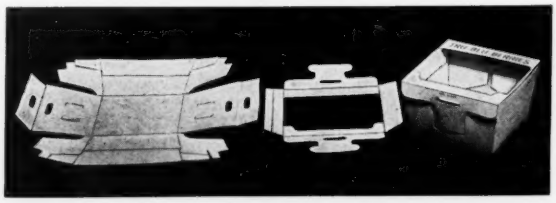
A comparatively recent and important addition to the types manufactured by the folding box industry. Its particular advantage is that it is shipped to the user's plant in flat, knocked-down form and set up by the user at his will. The transportation and storage of empty set-up boxes are obviated, and many progressive manufacturers are turning to this type of box. The corners are particularly strong and the box can withstand a great deal of stacking stress. It is made with reinforced side and end walls in a variety of types.

Tilting Lock Bottom-Panel Fold Cover



An attractive type of the very useful tilting display container. This is particularly well adapted to the display of small packaged items such as tubes or bottles. The tilting feature is simple in construction presenting no difficulties to the storekeeper—thus insuring proper display on the counter. The cover gives proper display to the merchandise and sales message.

Berry Carton

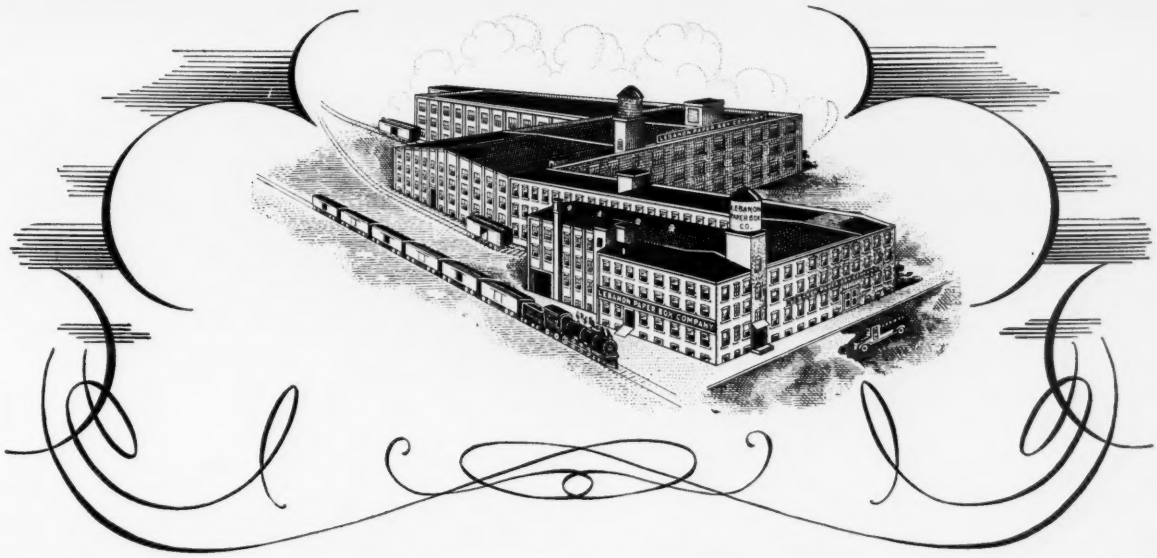


The paper berry basket is now an accomplished fact. This type of paper carton has proved its adaptability to replace the time worn wooden basket. The paper basket illustrated is made up as a folding basket style with wire stitched overlapping sides to set it in proper position for use. The raised bottom effect and slotted sides insure proper ventilation for the contents. It can also be equipped with window cover, which is secured with locks and holds firmly in place.

"Push-Pull" Display Dispenser

A new development in counter dispensers, consisting of two slots or sleeves, holding units of 12, 18, 24 or 36 small packages, such as ten-cent aspirin tins, which are dispensed by means of pulling or pushing a small lip or flap extending from the bottom right side slot. When the lip is pulled one package is ejected from the right side, and when it is pushed in, one package is ejected from the left side. Possesses excellent display value on front panel and ease of dispensing, either by the consumer or store clerks. The illustration shows front and rear views of this type. The latter, as may be seen, enables the dispenser to carry a reserve supply of stock that is visible at all times.

LEBANON PAPER BOX CO.



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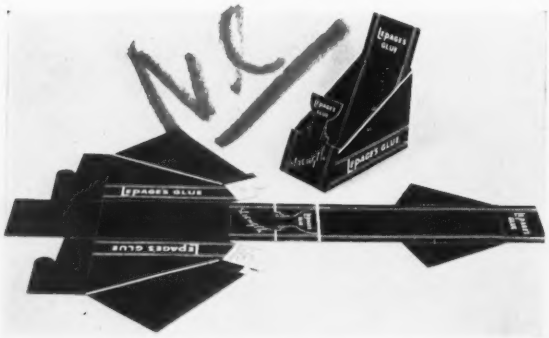
Pocket Front-Panel Fold-Lock Bottom

An unusually ingenious form of the dispenser type display container. The contents are sold from the stock packed in the main portion of the container—while the pocket or pouch front permits of an effective continuous display of the actual article. This prevents unsightly gaps in the display line and thus successfully overcomes a frequent objection to the counter display.

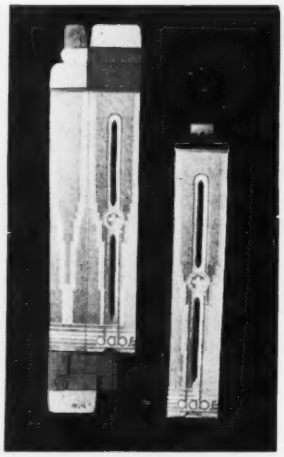
Rhomboid Display Container



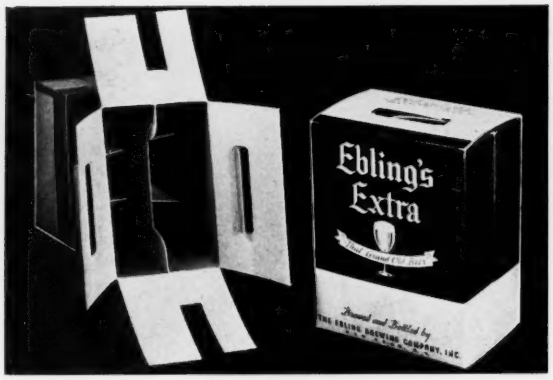
A novel display container and shipping unit. The sloping sides and special construction permit of displaying the goods in slanting tiers presenting a novel effect. Provided with a protective sleeve, it may be shipped packed in set up form ready for display. Especially well adapted for the display of tube or bottle cartons and similar small packages.

Self-Service Container

This high, narrow type of container, designed to occupy the minimum of space on especially crowded counters, utilizes the same "automatic" vending machine principle which piles up a single row of packages, providing an opening at the bottom through which a package may drop or be withdrawn. Fits into odd nooks or corners, or may be hung from a nail on a shelf.

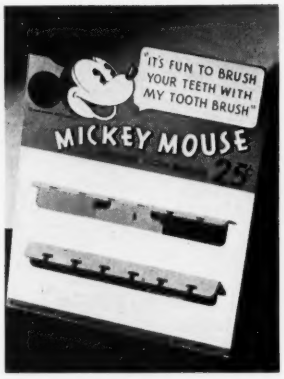


Bottle Carrier



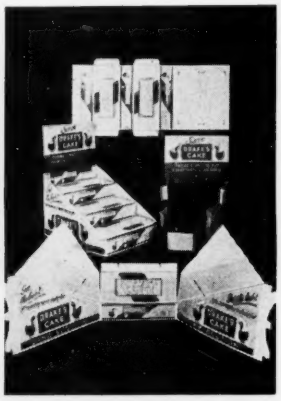
A sturdy container designed to carry six beverage bottles. It serves both as a display unit and with the handle makes a splendid "carry home" package, thus promoting the sale of the six bottle unit. This container is protected by patent.

Counter Dispenser Card



A sheet of substantial board, such as coated blanks, may be made into a variety of attractive styles of counter dispensers. "Mickey Mouse" card illustrated is die-cut with two shelves or lips holding twelve tooth brushes prominently on display. This particular card is equipped with lips on the back of the card holding a reserve stock of twelve additional brushes, which makes it a two dozen dispenser and sales unit.

Step Display



The two or three tier display stand illustrated fills a particular place in today's merchandising scheme. The stand is shipped flat—in three pieces and is easily set up by the dealer. It includes a fibre support for the steps and a display card for the rear. It is especially well suited to the display of packaged baked goods or similar packaged material and has proved of real value as a means of securing counter or floor space in retail as well as chain stores.

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SUGGEST PHYSICAL VALUE—

Because of their unusual and outstanding beauty—

Because of their definite "re-use" possibilities—

Because of their distinctive appearance—

Because of their inimitable leather-like feel and richly decorative designs—

Your merchandise packed in a ***Smith-Crafted*** container will immediately suggest greater value to the buyer—

And continue to suggest the purchase of your merchandise through its constant reminder of the quality of the original package.

If you sell quality in merchandise—
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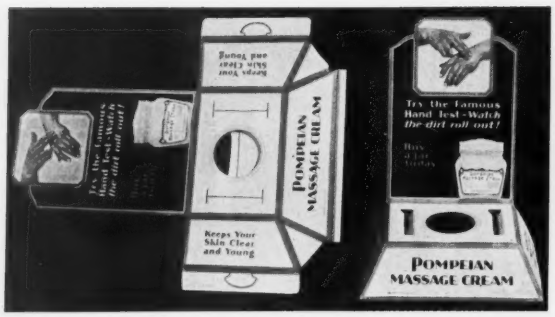
THE S·K·SMITH CO· 2857 NO· WESTERN AVE· CHICAGO, ILL·

Five-Panel Counter Display

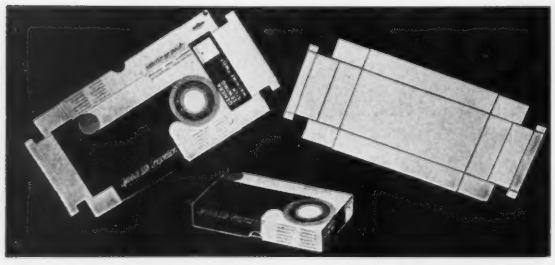

POMPEIAN MASSAGE CREAM
Try the Famous Hand Test-Watch the dirt roll out!
Keeps Your Skin Clear and Young
POMPEIAN MASSAGE CREAM

An interesting adaptation of the "trial" or "sampler" counter display. The platform base with proper cut-out apertures or slots holds the actual articles properly set up for trial or sampling. This can be easily set up in the familiar tuck carton form and the display card naturally assumes its proper place presenting ample display or instruction space.

One-Piece Collapsible Box

A one-piece cover type of container shipped in flat form. It is quickly and easily set up ready for use. The slots permit of locking in the cover, making this style especially well suited for baked goods and similar products. The use of a transparent cellulose window in the cover adds an attractive feature.

Two-Piece Telescope Carton



Two-piece box made up of blanks folded by hand. The ends overlap and are held against the side by friction. The cover may be made full or part depth and the blank glued at the side affords additional reinforcement, a recent development of the overlapping end blank in which an extra tab is provided as an extra protection at the corner. A similar reinforcement along the sides can be provided without the necessity of preliminary gluing. This style is the most recent development of the hand assembled telescope box.

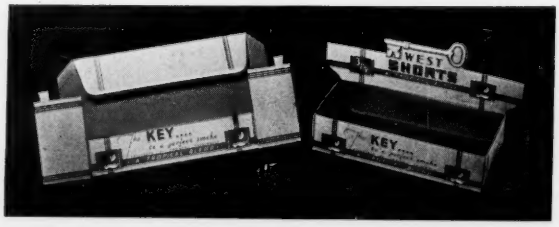
Basket Display

A container designed primarily for floor or counter display. It does not serve as a shipper but is easily set up by dealer, with the contents in a pleasing disorder. Adapted for quick sales of small packages.

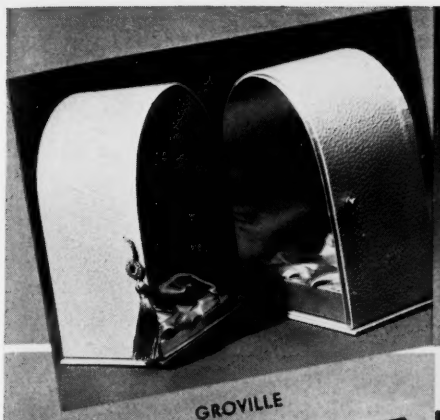
Pyramid Display

An advertising unit only, designed to replace the actual carton or package. The pyramids are shipped flat and may be easily set up by the dealer and present an unusually attractive feature adaptable for use in window, counter and shelf display.

Simplex Box, One- and Two-Piece Types

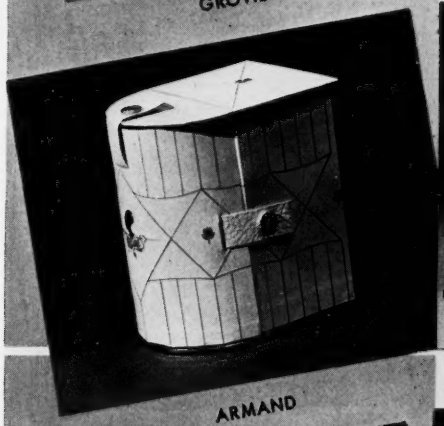


This advanced development combines the advantages of the solid or set-up paper box—rigidity, finish and strength—with the economy in first cost, shipping and storage, of the folding box. No machinery is required to erect these boxes instantly into position to receive contents. Made for all purposes—from the

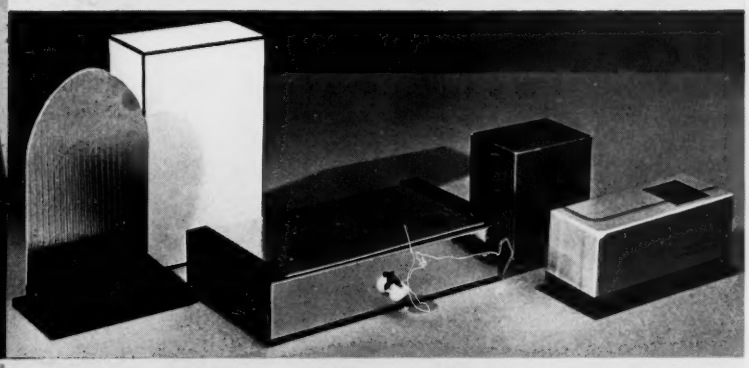


GROVILLE

LUCRETIA VANDERBILT • LUBIN • D'VORA



ARMAND



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FOLDING BOXES
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DESIGNING SERVICE

STYLE AND ACCURACY

We are qualified by experience and equipment to meet a packaging or re-packaging problem with a design of smartness and merchandising appeal, and to complete it with the precise accuracy in scoring, cutting, register and color harmony that truly expresses the quality of the product. Quotations given for short or long runs, folding or set-up boxes.

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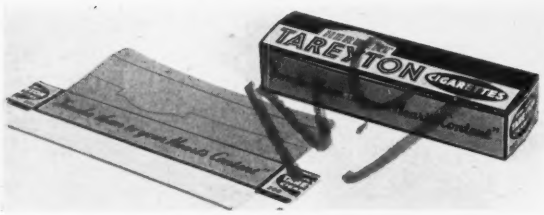
fine candy box with extension edges and laces, to large containers for blankets. All Simplex boxes are protected by patents. These are furnished in one-piece and two-piece types. Like the two-piece box, the one-piece Simplex box is instantly erected. Its construction affords maximum strength and rigidity for the caliper of board used. No cut edges or outside locks to mar the printing or appearance of the box. Made with and without display lids and with slide over covers optional. Requires printing or coating on one side only. Used in the candy and food industries and for display container purposes.

Brooks Twin Display

A new patented twin display container, the two sections of which nest into each other giving the dealer two distinctive counter displays. Striking success of this economical design is due to the fact that for the manufacturer it is easy to assemble and that for the dealer it requires no involved labor to set up.

One-Piece Collapsible Container

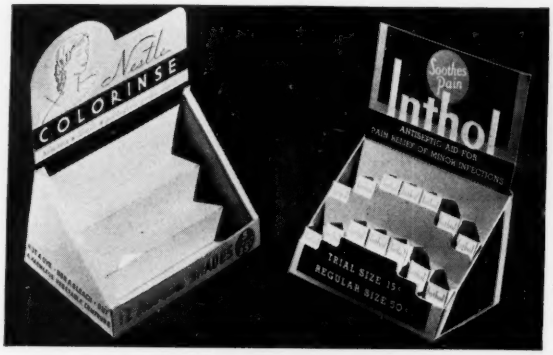


A simple one-piece container serving as a carrier especially useful where quick set-up and economy of cost are factors. It is, of course, shipped to user in knocked-down form as shown at the left.

Quick Set-Up Display Container

A simple, practical and efficient container and display unit. Die-cut cover offers excellent advertising display with good visibility for the merchandise, which encourages immediate inspection and purchase. This display is simple in construction and is easily set up by the retailer.

Rhomboid-Tier Containers



A novel development, combining the stepped and tilted back arrangements. It can well be adopted to the display of small articles. Provided with inner packing and protective cover it can be shipped in set-up form. Patents cover both styles.

Two-In-One Carton

This carton has two separate compartments which can be opened individually. It is made in one piece and comes to the manufacturer in conventional knocked down form. It is an ideal carton for a combination sale and is proving popular in various lines of merchandise.

Plain Glued-End Shell With Paste Wrapper

Consists of a plain, unprinted, seal-end inner shell, usually made of chip board, completely covered by a printed wrapper. A popular carton for flours, cereals, salt, sugar, etc., which are packaged in large quantities and require automatic machine filling. The double sealing prevents sifting, air deterioration and contamination from insects, dust or dirt.

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Far beyond any claims we might make for ourselves, the actual work of our plant proves the quality of our workmanship, the skill of our designers. It is because we have continuously held the business of many of America's leading makers of fine products, that we lay claim to recognition as America's outstanding creator of fine set-up boxes. The steady patronage of such firms, in a highly competitive market, is your own best reason for investigating what Buedingen service can do for you. Write us!

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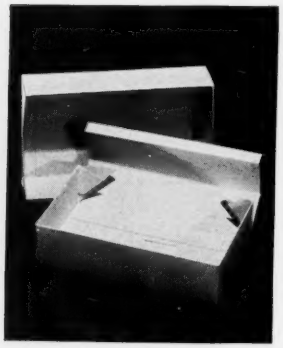
Shadow-Box Counter Display

An inexpensive and effective two-piece counter display. The base of the shadow-box cuts out of the main display panel, with the sides formed by another piece of folded stock, glued to the back of the main display. Suited for cosmetics, toiletries and food products. Raises the product above the level of the counter and gives a close tie-in between the product and the advertising message which is presented.

Loktite Box



A new folding carton construction, rigid, easy to assemble the Loktite box offers the advantages common to folding boxes which simulate set-up designs plus important features of its own. The corners are snug-fit and cannot bulge. It is impossible for the sidewalls to loosen or pull out. Even with a partially filled box the construction holds its original shape. Erection of the carton is a split-second hand operation. The exterior is entirely free from locks or laps giving maximum free area for the design. Due to its ruggedness, beauty and economy, it is adapted especially to heavy or irregular articles. Bottled, canned and loose-wrapped merchandise use this carton profitably in either a one- or two-piece design.

Counter Display Cards

A simple card incorporating the use of the product itself making a novel display for both window and counter. The use of this card is limited to the straight tuck type of carton. Shown in a tilted position, the carton is adjusted on the display card in a simple manner.

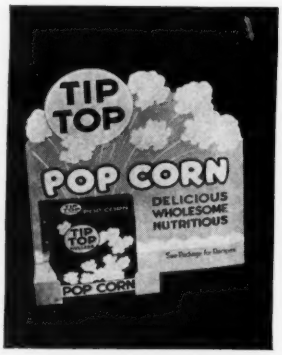
Automatic Two-Tier Container

The latest in two-tier display containers, permitting display of contents in two rows—a small mass display tied up with the sales message and occupying a minimum of the counter space. One of these, filled with product, can be shipped in a standard shipping case. All dealer has to do to set up display is to pull gently upward on back display panel until it is locked into positive display position. Patent applied for.

Tilted Upright Display

A novel display from individual carton to the container itself. The individual carton has a full vision window and is formed from the blank into a triangular shape with a tuck end. This shape permits the display of double the amount of pipes in half the space. The outer container is made in two pieces which can readily be formed into a shipper or a display at the convenience of the user.

One-Package Counter Display Card



One of the most popular methods of getting at least one package out on open display is with a display card of this nature. May be made small enough to fit in regular corrugated shipper, so that when the dealer opens up a case of merchandise the display card is the first thing he sees. Readily adaptable to all kinds of products and most economical.

UNIFORM

Production uniformity in color, size and quality has built for us an enviable reputation as the logical source for better cartons at no greater cost.

For more than a quarter of a century we have served many of the foremost manufacturers and merchandisers of the country. We thoroughly understand and appreciate the problems of shelf-appeal and package design. There is no obligation in consulting us for suggestions and estimated costs in connection with any package undertaking.

MICHIGAN CARTON CO.

BATTLE CREEK, MICHIGAN

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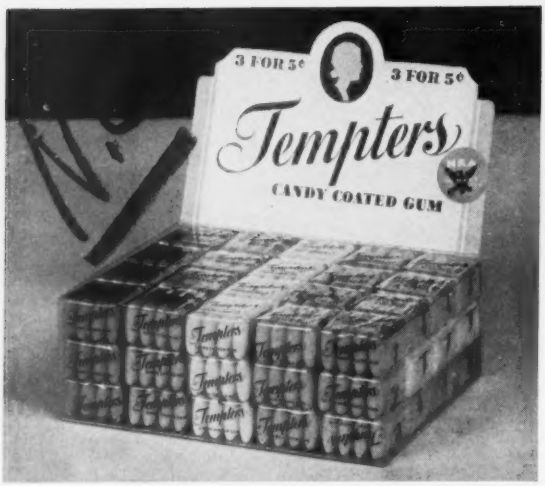
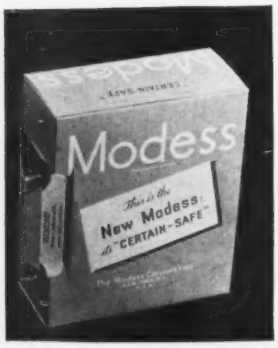
Crystal Box Display



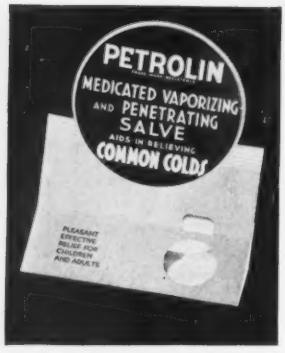
A new type of display container having transparent front and ends, so that product is displayed to the best advantage. Particularly desirable when product is wrapped in transparent cellulose, printed in attractive designs; or when product, or product wrapper is colorful so as to present its appeal through the transparent sides of this display container. Patented in the United States, Canada and Mexico.

Reclosing Carton



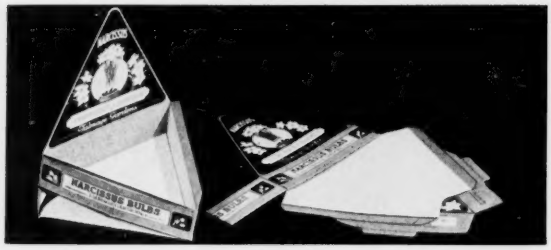
A new type of reclosure applied to the side of an ordinary seal end carton. The reclosure is formed from the side panel and a small extension of the glue flap. When perforations are broken properly it can be opened and closed at will. Patented.

Bevelled-Front Display Card



A very simple display unit, requiring no gluing. Made out of a coated blank, with bottom scored three times. Easily sets up by inserting a lip into a slot. The single package prominently displayed on bevelled surface. Combines excellent advertising display with low cost.

Triangular Tinsley Container



A novel development of the patented Tinsley style of display container. Triangular in shape—its novel appearance insures consumer attention. It of course incorporates the tilting feature of this display style and similarly serves not only as a display, but as a compact, substantial shipper. Its style is especially well adapted to the display of small articles of odd shape that can be shown to advantage.

Combination Shipper, Display and Dispenser

A straight tuck-end carton, perforated in the center, so that the top half folds back, to form a reserve stock. The main display panel is perforated at the top to form upright display card, and at bottom to expose six packages, ready for dispensing. Simple in construction, affords excellent protection to product and offer novelty and extremely attractive display. Patent applied for.

Dummy Cartons

No better method is available to get window displays than by furnishing dealers with quick set-up dummy packages. Shipped flat and so scored that they readily set up by holding in the hand and pressing both ends simultaneously. Patented. Extensively used by tobacco manufacturers, and adaptable to wide variety of products other than those indicated.

Time marches on!

with YOUNG IDEAS keeping pace with modern packages. We can solve your display and packaging problems for you.

JEWELRY ◦ COSMETIC ◦ PERFUME ◦ PLAIN COUNTER DISPLAYS ◦ ◦ MAILERS

YOUNG BROS., INC.

722 EDDY STREET, PROVIDENCE, R. I.

BOSTON NEW YORK PHILADELPHIA

XUM

Hexagonal Tuck-End Carton

For round products, such as a fruit cake, this style carton has several advantages. Excellent display, on the sides as well as the main display panel. Not suitable for automatic machine filling but may be quickly set up for hand filling.

Two-Plane Counter Display Card

Offers all advantages of display card with added feature of displaying two products on succeeding planes or tiers. Easel cuts out of stock. Adaptable to large variety of products as well as different sizes of packages.

New Cracker Caddy

A two-piece container consisting of a collapsible cover and a bottom closure known as the "Quik-loc". This new style of caddy eliminates the necessity of stitching of covers or bottoms by the packer.

Bolt End-Lock Carton

A highly economical carton requiring a minimum of stock. Quickly and easily set up and closed. Extensively used for packaging baseballs. Ends may be securely fastened with a gummed seal or encircling band, making the package tamper-proof, and insuring the product's reaching the consumer in the same clean and fresh condition it left the factory.

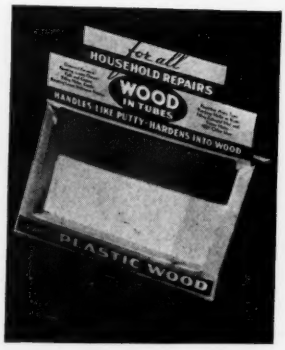
Re-closing and Pouring Top

Of advantage where reclosing is desired. The upper flap is perforated as shown so that when the package is opened the strip can be inserted in the open edge of the carton, thus resealing the package. The under flaps are also perforated and may be opened up to form pouring lips so that the product may be conveniently removed as needed. Cartons may be lined or unlined as desired. Differs from other types of pouring devices in that an additional flap is provided for the sealing. No additional board is required. Patented.

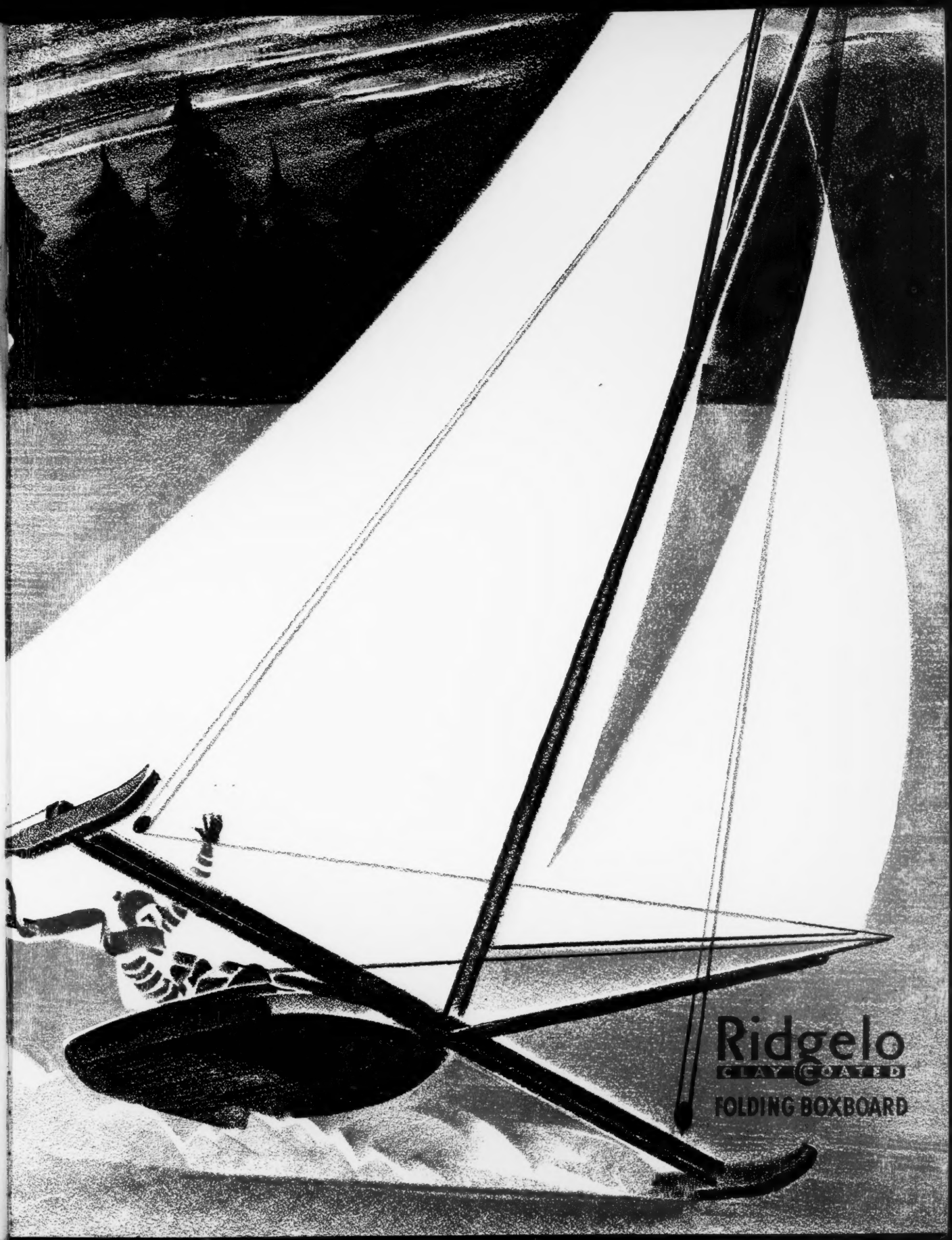
Step-Up Counter Display

An effective multiple-package display, with the products shown on two steps or tiers, with the display card, which is a separate piece, inserted above the displayed products. Simple in construction and requires no easel as the base provides sufficient support.

Angle Display



Construction is such that this counter display sets up at the best angle for maximum visibility of the packages displayed; a simple and economical easel holds it in that position. Closed, the display with its contents is ready to ship. The contained packages are firmly held in place although easily removed. From all reports the display has served to definitely stimulate sales. It is known as the U. S. Ad Sales Design No. 2-C, and is patented.



For Good Reasons— THE BEST KNOWN NAME IN BOXBOARD

Ridgelo
CLAY COATED
FOLDING
BOXBOARD

ITS BRIGHT FINISH, FINE FORMATION, RIGIDITY, SMOOTH FOLDING, DEPENDABLE RESULTS ARE PERTINENT REASONS FOR THE REPEATED SELECTION OF **RIDGELO** FOR FINE FOLDING CARTONS.

THIS INSERT IS PRINTED IN THREE COLORS ON **RIDGELO** BRUSH FINISH, ONE SIDE; TWO COLORS ON REGULAR COATING .016 DOUBLE LINED THE OTHER SIDE. **RIDGELO** IS MADE IN CLAY COATINGS FROM .012 TO .036; IN METALLIC COATINGS AND IN SPECIAL FINISHES TO ORDER. IT IS ALSO STOCKED IN SIZE 28x44, .012 to .030 WHITE; AND LITEFAST COLORS IN .016.

MADE AT
RIDGEFIELD, N. J.
BY
LOWE PAPER COMPANY

HAVE YOU A COPY OF THE **RIDGELO** COLOR SELECTOR—SHOWING 169 MODERN TWO-COLOR INK COMBINATIONS FOR CARTON WORK? ONE WILL BE SENT TO YOU ON REQUEST.

XUM

SIMPLEX

"The Solution to the Set-Up-Box-Problem"

the test of a Champion—

Can He Take It?

The Finished Package

Simplex Knocked Down

Whether in a boxer, a paper box or a swim suit resistance to punishment counts. Jantzen proved this many years ago. And it was but natural they demanded DURABILITY in a container for their product—world famous for its wearing quality. So, they chose Simplex.

The Simplex Paper Box CAN TAKE IT. Double construction af sidewalls and ends provides cushioning that MORE THAN DOUBLES strength at these vulnerable spots. Products packed in Simplex reach their destination intact — no spilling, no breaking or damaging of contents.

Nor is sturdier construction its only claim of superiority. Simplex also save time, money and floor space.

The Simplex Paper Box was perfected and patented only a few years ago—yet, many million Simplex boxes have already satisfied the requirements of exacting buyers. We believe they will please you too — especially if you are one of those who demand in paper boxes, as in other things —the ABILITY TO TAKE IT!

Leading manufacturers of paper boxes throughout America are now licensed to make Simplex boxes. Drop us a line that we may advise you as to your closest source of supply.

SIMPLEX PAPER BOX CORPORATION

LANCASTER, PENNA., U. S. A.

XUM

Reinforced (Metal Edge) boxes and displays of various types. Top row, left to right: One-piece hinged lid lock sampler; one-piece triple lock; factory-sealed self-service dispenser; double-wall box, also permits display. Lower row: One-piece hinge lid; two-piece display box; two-piece telescope. Among other types (not shown) are retail delivery and millinery boxes

USE OF CARTONS AND DISPLAY CONTAINERS

THERE are only thirteen original plots in all literature, and probably fewer than that are included in the number of original types of folding boxes. But certain it is that the variation of types of cartons and displays which are now available greatly exceeds that figure. The foregoing text pages illustrate and briefly describe some seventy folding paper boxes and displays, and it can be said that each of these may be modified in form to total a number which probably exceeds that obtainable in any other type of container known to the packaging field. It is believed, however, that this compilation of types is the most complete of any work on the subject that has been presented for the service of the industry.

Not every type is made by any one company, although none is such that it could not be if it were not for patents that reserve their use to the patentees. Actually, all are comparatively simple in construction and require little in the way of complicated machinery to produce. Most of the cartons and displays thus protected are so stipulated in the descriptive information given, although it is suggested that manufacturers who seek to have any of the designs supplied them by their carton makers determine whether or not patents exist on the types desired. Frequently there are inter-company arrangments whereby the protected types may be usd by those other than the patent holders.

In manufacture, the operations for the production of cartons and displays are comparatively simple although the equipment required may range from simple presses that print, score and cut the carton board to high-speed, multicolor presses with various attachments for cutting, scoring, gluing and other operations. The modern folding box manufacturing plant is one which requires a heavy investment in equipment and is usually well staffed with various departments that enable the company to offer the manufacturer a complete service, from design counsel to the finished carton or display.

The dies from which the cartons are stamped or pressed out are individually constructed to suit the

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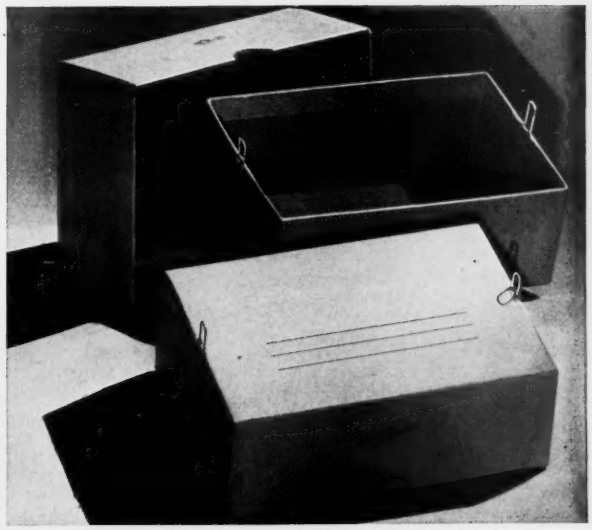
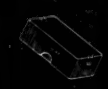
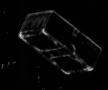


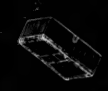
5 STYLES - 100 SIZES



"PARCEL POST" 50 SIZES
For ALL unsealed mail. Two wire fasteners.



"FOURTH CLASS" 21 SIZES
For sealed first, third and fourth class mail. Two wire fasteners, two sealing flaps.



"UNIVERSAL" 9 SIZES
For EVERY class of mail. Double thick stock, two fasteners, four sealing flaps. (Perfect for Registered mail.)

"BONDED" 9 SIZES
For sealed mail that is FRAGILE. Corrugated lining. Four sealing flaps.

"NO-BREAK" 15 SIZES
For unsealed mail that is FRAGILE. Corrugated lining. Two wire fasteners.

4 IMPORTANT SAVINGS

1. **SAVE EXTRAS.** No wrapping paper, string or tape to buy. Complete—ready to mail.

2. **SAVE POSTAGE.** Light weight combined with strength. Eliminates weight of paper, string, or gummed tape.

3. **SAVE LABOR.** Standard sizes to work with. Pack, fasten and ship in one-third the time.

4. **SAVE LOSSES.** So strong you can actually stand on them. Carry millions of shipments in absolute safety every year.

For Quicker - Easier - Safer Shipping . . .

USE MASON MODERN MAILERS

Save money too—when you standardize your shipping department on Mason Mailers for ALL Mail Shipping.

Join the thousands of firms who make real savings and add good looks and prestige to their shipments by using this modern mailing-shipping container.

Standard sizes for standard needs. Special sizes to fit any special use. Write or wire for samples, quotations, or our handy, complete catalog.

THE MASON BOX COMPANY

ATTLEBORO FALLS · · · MASS.

NEW YORK: 175 Fifth Ave.—CHICAGO: 31 North State St.

specifications desired. These dies are made from steel straps or bands fitted to measurement between blocks of wood or metal and so spaced as to form cutting and scoring lines when the die is placed in the press and forced against the carton board. The preparation of the die itself is a work which requires experience and care, for even the simplest type, and particularly when extensive runs are needed to complete the order.

In carton or display making, four types of folding boxboard are used: chipboard, single manila, patent coated and clay coated, all of which are described in the chapter "Nomenclature of Set-Up and Folding Boxboard" on page 48. To some extent also are used certain laminated boards such as those making use of metal foil, transparent cellulose and other protective papers and materials which are desirable when the merchandise contained in the carton needs special protection or when an unusual display effect is wanted.

Surface Coatings on Cartons

Of increasing importance is the use of surface varnishes and lacquers as applied to cartons and displays, and the recent progress which has been made in the development and application of these coatings has been one of the outstanding innovations in the packaging field. To those interested in the subject is referred the chapter on page 152, "The Status of Lacquered Papers," the closing paragraph of which is quite prophetic:

"These processes cannot continue to hold the present pitch of interest simply because the results seem to be new. It will be the uniform and consistent efficiency with which lacquer performs its assigned functions as a paper coating which must carry on from this point. Surely such functions as heat sealing, moisture-proofness, grease-proofness, washability, color stability, etc. are sounder principles in paper coating than the sole property of "glossiness" possessed by most alternatives. And when such versatility is obtainable simultaneously with eye appeal, the paper lacquer chemist has good reason to believe that he will go far. At the same time, there is no reason to believe that spirit varnishes or overprint will ever lose much ground to lacquer on vegetable can labels, cigar bands or other places where glossiness and low costs are the only considerations. Furthermore, it is likely that lacquer costs will continue, for a long time, to be higher than spirit varnish. Still the use of lacquer on paper is today expanding in spite of this cost differential because, used intelligently upon packaging problems, it can be fitted to the requirements of the job with a nicety impossible for any other coating obtainable to date."

Linings for Cartons

It is seldom that display cartons, used to contain one or more individual or unit packages, will require linings. But the field of lined folding boxes is quite extensive and calls for the use of a wide range of materials for lining purposes. Practically all of the papers mentioned in the section designated "Papers" are used —metal foil, transparent cellulose, waxed paper, glassine paper, parchment and tissue. In some cases, such liners are in the form of bags, separately made and inserted by hand, semi-automatically or automatically after the cartons are formed and ready for filling, while in others the linings are specially formed by units that are an integral part of the carton sealing machines. In sealing, when a glued carton is used, the upper edges of these linings or bags are folded before the final sealing of the carton flaps. In some instances an interfold of lining and carton flap is used.

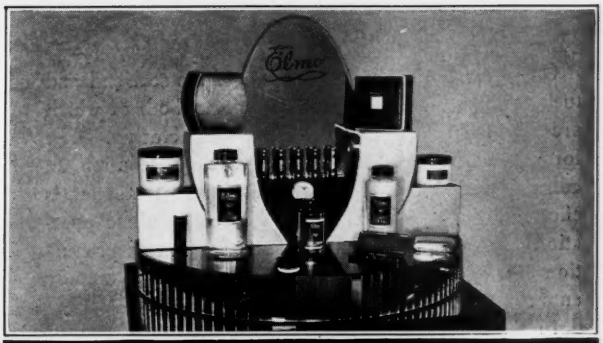
Certain examples of pouring spouts—convenient for free-flowing products—which can be made when the carton blank is died out, are shown, and a number of these have been placed on the market recently. However, metal pouring spouts which are affixed after the cartons are made are still popular with consumers. These are affixed in such a way that they can be pulled out and pushed back as the product is used or not in use. In some cases, a paper seal is placed over the spout when in closed position so that there is no danger of it opening until the consumer wishes to use the package.

Instructions for Setting Up Displays

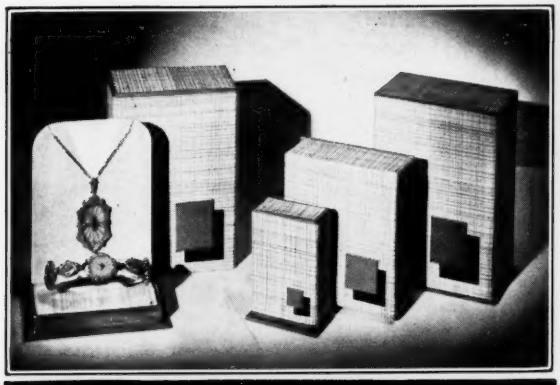
Most carton display manufacturers make a practice of showing, either of the display itself or on an inserted sheet, a diagram which explains the manner in which it may be set up by the retailer. This practice is quite essential for many of the complicated forms, for otherwise the retailer may feel that the display is too involved or troublesome and refuse to use it. So that the packages, for which the display was planned, will be relegated to shelves or otherwise given a position of less importance than that which they would occupy were they shown properly in the display.

While certain types of displays are sent to the dealer in "knock-down" form, others are "self-shippers"; that is, they are shipped complete with their contents and only require a removal of an outer wrapping or sleeve to be ready for use.

When packages or products are fastened to the ordinary type of card display, or in fact any display, several devices are employed. Those most commonly used are staples, metal clips, gummed tape or paper and pouches or shelves which are glued to the display. The first mentioned is usually the most efficient and causes less trouble as there is a tendency on the part of the others to become loose, so that the appendage falls off, which means, of course, that it must be replaced by the retailer. And, as previously mentioned, the more time he can be saved, the greater will be his enthusiasm for the display. Methods employed in stapling are described in the chapter on that subject which appears on page 378. Uses of gummed paper and gummed tape are outlined in the chapter on page 275.



MERCHANDISE DISPLAYS



PAPER BOXES

METAL BOXES

WOOD BOXES

THE WIDE RANGE of our box and display manufacturing facilities makes it possible for us to cooperate with manufacturers in an equally wide range of fields. This diversified equipment enables us to design for them the type of box or display their product logically demands.

Whether the box or display is to be made of wood, cardboard, or metal—whether it is to be covered with paper, imitation leather, or velvet—whether lacquer spray finishes are to be employed—our facilities are so complete that we can manufacture any or all of these types.

The customers, whom we serve, include the nation's leading manufacturers in the jewelry, perfume and allied fields.

The services of our designing department are always available to those manufacturers who seek new types of boxes or displays, and who wish to select from a wide range of materials and from varied types of manufacturing processes.

Our representatives—trained merchandising men—will be glad to confer with you.

ARROW

MANUFACTURING COMPANY · INC
15th & HUDSON STREETS, HOBOKEN, NEW JERSEY
Telephone HOboken 3-8472 or REctor 2-1951

XUM

Seal End and Tuck Cartons

On page 60 diagrams are shown of the seal end and tuck cartons, the two commonest forms, both of which are adaptable to automatic filling and closing. The former, as indicated by its designation, requires an adhesive for sealing, while the closing of the latter is effected by a tucking-in process. Both of these operations may be performed manually but unless production is very limited, it is a distinct economy to employ automatic equipment.

In the case of the seal end cartons the operation, briefly summarized, consists of a method of opening and blocking the carton from the knock-down blank, during which the bottoms are sealed. Then, following the weighing and filling operation, the top flaps are sealed. These processes, as well as the machines for performing them, are illustrated and described in the article "Dry Products Packaging" which appears on page 326. A modification, making use of these cartons in unprinted or "shell" form and applying a separate wrapper, is known as tight wrapping, which is detailed in the chapter "Tight Wrapping of Packages" on page 384. The seal end carton is used almost exclusively for dry, and for the most part free-flowing, products that can be placed therein by automatic, semi-automatic or hand filling machines. In some instances, solid products, of which a single unit may be placed in the carton, this type is employed, but usually such products can be packaged to greater advantage in an over-all wrapper, so that a carton is not necessary.

The use of tuck cartons permit a wide latitude as to the variety of products packaged. Some idea of this diversity may be gleaned from a reading of the article "Methods of Assembly in Cartoning Machines" on page 370, although this lists but a few of the products and pertains mainly to the application of some of the newer types of cartoning machines. It may be mentioned here that the progress made in cartoning equipment has been largely responsible for the increasing popularity of the tuck carton and its adaptability to an extensive range of products. In production, higher speeds have been obtainable, an ordinary rate being around 150 complete packages per minute, while over 200 per minute have been reached.

In addition to the placing of products in tuck cartons, some mention may be made here of other accessories that are included in the assembly of such a package, and for which due allowances must be made when the carton is planned. It is often advisable when a bottle is used as the inside container for the cartoned product, to supply a wrapper of single corrugated board or some other material which is usually placed around the bottle in the cartoning operation and thus serves to protect it. Similarly, a frequent use of package inserts is made, the most common as included in the carton being the over-end insert, collar label and inner-carton insert. Descriptions and illustrations of these will be found in the article "Package Literature in Advertising" which appears on page 218.

Display Containers

The display container diagrams on page 60 might indicate that simplicity is the rule in the design of such containers. But such is not the case with many of them, as will be seen by a study of the several types shown. For the desire of the manufacturer is that his packaged products obtain their "place in the sun", and to that end the carton manufacturer has exercised his ingenuity and resources. Open display for packages is an accepted merchandising fact, and it is thus that containers which will hold either a single package or a supply, and show them to advantage, have become increasingly popular.

In the planning of the display, however, the product manufacturer must not err on the side of selfishness lest he lose the good will of the retailer. There are certain definite limitations as to size which he must observe, both as to the height of the display and the area which it will occupy on the counter or shelf. If these are exceeded, the display so planned will either not be used at all or will be replaced by others that comply with the arbitrary rule which the storekeeper has established. Here, the advice of the display manufacturer can safely be followed for he knows that his business depends on his ability to produce satisfaction for the manufacturer. If the display fails to meet with retailer acceptance he cannot hope for a re-order as that reaction is immediately felt by his client.

Requirements for a Display Container

To meet with the approval of consumers, the requirements for a successful display are much the same as those for a package, and these have been set forth in a previous article (see page 55). However, the display is seldom purchased in its entirety by the consumer of the contained packages—it is seen only on the counter or shelf and its function must be to catch the eye quickly and effectively. This can be done only when the display is of attractive appearance and is easily accessible, and when the sales message is direct. The latter point is one which may be obtained in many ways, although here, as with the design of a carton or, for that matter, any type of package, judgment must be used to incorporate the right appeal in copy and decoration. With certain types of demonstration displays, it has been possible to attract favorable attention to the product by showing the actual utility of the product. Similarly, many of the types of dispenser displays, which afford an easy means of "helping one's self" have met with approval from the consumer.

Packaging Principles

From all of the foregoing it will be seen—and this rule applies to each type of package that may be used by the product manufacturer—that each element in the package assembly must be viewed in its relation to the other elements if economy in production and the accept-

FORT ORANGE folding paper cartons and display containers

ENTRANCE TO MAIN PLANT OF FORT ORANGE PAPER COMPANY

The Fort Orange Paper Company is an institution with a 78-year tradition of fine workmanship . . . a devotion to the production of increasingly improved folding paper cartons and display containers. In the quiet of our hills, men who have spent their entire working lives, aided by the most modern machinery, daily carry three to four million such product through to completion . . . from raw pulp to final printing. The volume of our production and the high character of our customers are our most fitting testimonial.

We invite inquiries from firms who recognize and value a superior product.

FORT ORANGE PAPER COMPANY

CASTLETON ON HUDSON, N. Y.

MANUFACTURERS OF PAPERBOARD, FOLDING PAPER CARTONS AND DISPLAY CONTAINERS

NEW YORK CITY BOSTON

ability of the consumer are to be attained. It is not sufficient that the product manufacturer procure a design which will do justice to his hoped-for sales. The design must be practicable from the standpoint that it meets his production and distribution facilities as well as the requirements of the consumer for convenience, product protection and attractability.

The complete understanding of these principles will convince the product manufacturer that there can be no "royal road" to successful packaging and that the business of packaging has developed to a point where the unexperienced and unfit among the designers and suppliers have no place. Formerly there existed, and still exist to a limited extent, those individuals who regarded the package merely as a necessary evil—an additional expense placed upon a product as a means of taking a higher revenue from the consumer. But this line of reasoning—if it could be considered such—has completely changed with the demonstration that well-planned and well-executed packages are the best selling asset that a product manufacturer can have.

Advantages of Cartons

The advantages of folding cartons have already been set forth in the chapter "Folding Paper Cartons" which commences on page 54. Also included in the same chapter is an outline which will enable the manufacturer, in a preliminary way at least, to arrive at a plan of design and production for his carton or display. It is of definite advantage, and economy, too, that certain objectives which he desires for his package be determined *before* and not *after* the carton maker has started his work—for changes and re-runs are expensive. It is essential, therefore, that all information which has a bearing on the product to be packaged, together with a complete understanding of the merchandising problems which the product must face, be given to the carton maker so that he can co-ordinate such information with his experience, and thus produce a job which is acceptable to the manufacturer and—which is more important—the consumer of his product, consistently and continuously.

It is to be noted that a separate chapter deals with the subject "Paraffined Cartons for Food Products" as differentiated from "dry" (unparaffined) cartons covered in this chapter. The reason for this is that the majority of users of butter, lard, oleomargarine and shortening cartons do not use any of the latter and it was felt that they should have a section devoted exclusively to the style of packages they buy and use.

Metal Edge Boxes

Shown on page 90 is a group of reinforced boxes and displays. In these types, use is made of metal reinforcing strips which are placed on the edges of the boxes in such a way as to serve not only as a stay for the boxes but to impart a rigidity to them that is unequalled in the paper box field. In assembled form, many of these boxes could well be considered as classifying in the set-up box group, as contrasted with folding cartons. But, due to the fact that they are generally supplied to the user in knock-down form and are assembled by the latter, they fall strictly within the classification of folding boxes and are usually designated as such. The printed blanks, cut and scored, after folding are applied to a special device which affixes the metal bands or straps and thus completes the box or display. Some idea of the diversity of types which are possible may be obtained by a study of those illustrated on page 90, although these are but a few of the many that are available. Extra heavy board is used in their construction as this not only gives additional strength but also allows for a satisfactory "holding" of the metal strip. Once inserted, the latter cannot be removed without a complete destruction of the box.

Each year, as the PACKAGING CATALOG has been revised, it has been necessary to include a number of new types of cartons and displays among those illustrated and described in the book. And a close check-up shows that very few of those originally published have been discontinued in manufacture or are replaced by others of modified form. The use of paper cartons has consistently increased as has the list of products which they contain, the latter being greater than that for any other type of container. It is not surprising, then, that there is available among the manufacturers of cartons and displays, as well as the makers of machines for performing the several operations that involve the use of a carton of any sort, ample information that will enable the producer of merchandise that logically should be placed in a package to deal completely with such problems. The PACKAGING CATALOG can and does present many of the facts that should be known and can indicate what may be done. But it should be used only for the purpose for which it is intended—a reference or guide book to those who are seeking for ways and means of tackling a packaging problem. Therefore, it is urged that readers make full use of its facilities which, under the arrangement that has been consistently followed, take into account the many sources from which packaging materials, equipment and services can be obtained.

Making use of the page references in this article, it is possible for a manufacturer to follow through and obtain whatever preliminary data he may need to determine what type of carton or display to use, what equipment he will require in order to assemble the cartons and other conditions that are necessary to his production and merchandising operation. Supplementing these, he has recourse to the advertising pages which set forth the services of specific suppliers of materials and equipment. In addition, the Buyers' Directory, on pages 15 to 38, gives him, under the proper listings, the names of additional suppliers.

In a similar manner, it is possible to make use of the book to obtain what is needed for the application of any type of container or packaging adjunct. This service is, so far as is known, not to be found elsewhere than in the PACKAGING CATALOG.

WHY 146 DIFFERENT LINES OF BUSINESS Come to "U S"

Because "U S" knows POINT-OF-SALE merchandising . . . "U S" provides creative service, from trade mark guidance and packaging counsel to repeat-sales promotion . . . "U S" produces 42 different types of merchandising and selling helps that create and strengthen BRAND PREFERENCE . . . "U S" facilities are modern . . . "U S" complete service is backed by a half-century of successful experience.

• Before adopting ANY brand name, consult the "U S" TRADE MARK BUREAU at Cincinnati

HERE'S A LETTER CLAIMING PRIOR USE OF OUR NEW BRAND NAME.
THAT'S TOUGH! AFTER THIS WE'LL CONSULT THE "U.S." TRADE MARK BUREAU FIRST!

Nearly a million Registered and Unregistered trade names on file, to help you safeguard YOUR brands

THE right to a Brand Name is determined by priority of use. There is no record at Washington of unregistered names, but courts afford them full protection.

In the "U S" Trade Mark Bureau at Cincinnati is immediately available to you complete reference data on EVERY REGISTERED NAME and, in addition, almost TWICE AS MANY UNREGISTERED BRAND NAMES.

This service has aided thousands of concerns in eliminating wasteful delays, unnecessary expense and the possibility of infringement.

The tremendous value of this service is revealed in the fact that the "U S" Trade Mark Bureau is consulted by manufacturers, wholesalers, retailers, advertising agencies, attorneys and others throughout the world.

The "U S" Trade Mark Bureau is at your service—any time, as often as you desire—without obligation.

After the Brand Name, Comes . . .

XUM

"US" PACKAGING SERVICE PLUS

. . . giving you the greatest possible assurance [illegible] at the point-of-sale . . . turnover and profits fo[illegible]

SELECTION of your product—*your brand*—in preference to others is the final test of all merchandising.

"U S" Products have been meeting this test—building sales and creating BRAND PREFERENCE—for a half century.

At the point-of-sale, you take things as they are—not as YOU would like to have them. There is only one way to "crash the gate" in marketing.

"U S" knows point-of-sale merchandising. In the retail outlets of 146 different lines of business, "U S" products are doing a resale job TODAY.

Packaging strategy, important as it is, is but one step on the road to brand preference and repeat sales.

"U S" ideas in packaging AND merchandising are behind many of today's outstanding marketing successes . . . national and local. This, "U S" will gladly demonstrate.

All sound merchandising strategies lead to action at the point-of-sale.

"U S" produces 42 different types of selling helps for a single purpose—that of assuring favorable action at the point of sale.

A partial list of "U S" products is given at the right. There is no higher standard of color reproduction than that of materials produced by seven modern "U S" plants.

1 PACKAGE DESIGN AND PRODUCTION

Labels
Wrappers
Folding Boxes
Display Containers

2 MERCHANDISING TO WHOLESALERS [illegible] DEALERS . . . MAIL-SELLING

Salesmen's Portfolios
Folders Broadsides Blotter[illegible]
Illustrated Letterheads
Catalogs in color

3 IMPRESSING THE PUBLIC FAVORABLY, [illegible] THE WAY TO MARKET

24-sheet highway posters
3-sheet point-of-sale posters
Car and bus cards

4 AT THE POINT-OF-SALE . . . IN THE WINDOW

Display cutouts and cards MOTION Displ[illegible]
"Colorgraphic" Transparencies
(American Litho. Co. Division)
Trims and festoons
Enlargements of magazine ads Radio Tie[illegible]

5 AT THE POINT-OF-SALE . . . INSIDE THE STORE

Counter merchandisers
Hangers and banners
Display cards Calendars Consumer fol[illegible]

6 EDUCATING CUSTOMERS TO REPEAT

Package inserts Recipe booklets "New use" fol[illegible]
Premium Merchandisers and Coupons
"Other product" sampling cards

XUM

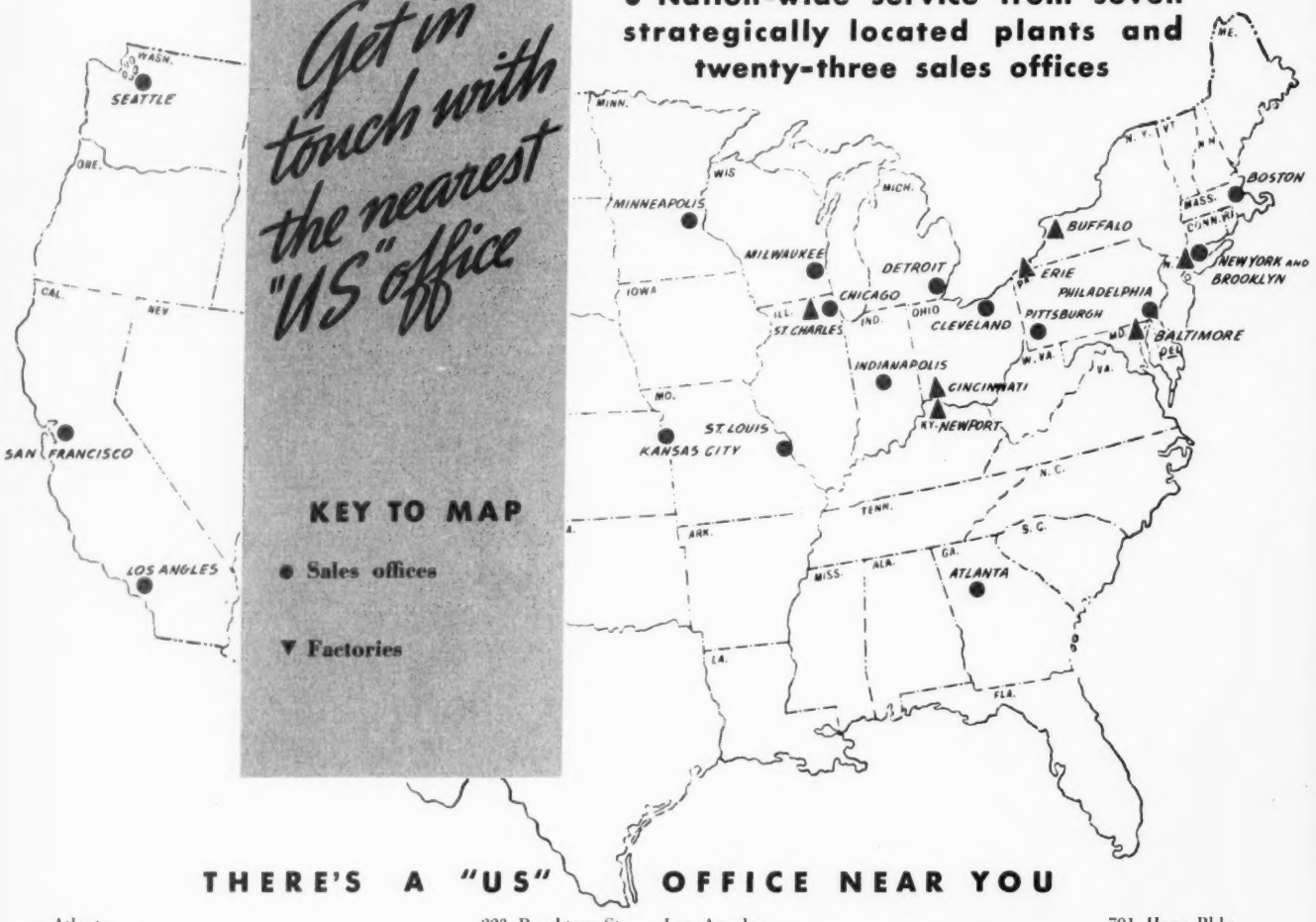
"Sales-follow-thru"

favorable action your dealers

"US" ...the world's largest organization devoted entirely to creating ideas and materials that build BRAND PREFERENCE

Get in touch with the nearest "US" office

• Nation-wide service from seven strategically located plants and twenty-three sales offices



KEY TO MAP

- ● Sales offices
- ▼ Factories

THERE'S A "US" OFFICE NEAR YOU

Atlanta	223 Peachtree St.
Baltimore	Cross & Covington Sts.
Boston	80 Boylston St.
Brooklyn	85 North 3rd St.
Buffalo	601 Amherst St.
Chicago	205 W. Wacker Drive
Cincinnati	Robertson & Beech Sts.
Cleveland	1104 Leader Bldg.
Detroit (Dearborn Station)	7915 Indiana Ave.
Erie, Pa.	10 W. Fourth St.
Indianapolis	801 Majestic Bldg.
Los Angeles	701 Haas Bldg.
Kansas City	509 Fairfax Bldg.
Minneapolis	511 Penn Ave. No.
Newport, Ky.	6th & Washington Sts.
New York	52 E. 19th St. and 105 Hudson St.
Philadelphia	437 Chestnut St.
Pittsburgh	706 Renshaw Bldg.
San Francisco	112 Market St.
Seattle	602 Hoge Bldg.
St. Charles, Ill.	Indiana Ave.
St. Louis	413 Frisco Bldg.

(ADDRESS TRADE MARK INQUIRIES TO CINCINNATI OFFICE)

THE UNITED STATES PRINTING & LITHOGRAPH CO. AND ASSOCIATED COMPANIES

The American Lithographic Co. Inc.
"Colorgraphic" Advertising

Atlantic Lithographic & Printing Co. Inc.
"Illustra-color" Advertising

The Donaldson Lithographing Co.

W. F. Powers Company

Palmer Advertising Service, Inc.

The Theo. A. Schmidt Lithographing Co.

The Erie Lithographing & Printing Co.

ROWELL BOXES...

provide the rare combination of quality containers at moderate cost . . . a combination made possible by our tremendous production facilities, our improved equipment and a designing staff second to none . . . Round, square and odd-shaped boxes are available in many unique designs . . . We will be glad to aid you in planning your containers along advanced and economical lines. Write your needs.

Used in large quantities for sampling face powder, with or without cellophane drum.

E. N. ROWELL CO., INC. BATAVIA, NEW YORK

New York Office:
SEWELL H. CORKRAN
30 East 42nd Street
Phone: MUrray Hill 2-3447

Chicago Office:
H. G. MacKAY
180 North Wacker Drive
Phone: RANdolph 0934-0935

Hollywood, Cal. Office:
C. H. E. DUNN
Guaranty Bldg., 6331 Hollywood Blvd.
Phone: Hollywood 0111

Boston Office:
H. P. TUCKER
52 Chauncy Street
Phone: Hancock 0398

Detroit Office:
H. E. BROWN, 7376 Grand River Ave.
Phone: Euclid 2211

St. Louis Office:
The DICK DUNN Co., Merchandise Mart Bldg.
12th Blvd. & Spruce St., Phone: Central 3544

PAPER DISPLAYS FOR PACKAGES

THERE is no branch of advertising to which more attention has been paid during recent years than the improvement of the appearance of packaged merchandise. This improvement was started through the efforts of some few manufacturers to out-distance their competitors by making their packages more appealing than the competing lines, and, naturally, the example was soon followed by others. In the beginning of this change toward a more attractive package, the new and more artistic examples stood out in strong relief from their competitors, which served as a foil for their brighter colorings and more striking designs.

Corrugated container which folds into a floor stand display and invites examination of the packages shown. Courtesy of Owens-Illinois Glass Co.

The trend toward color and improved design has been so generally followed, however, that today, however bright and pleasing a package may be, it no longer has as great a power of attraction as at first, for its colors are now merged in the general color display toward which most of its competitors contribute equally.

The multiplication of the number of manufactured and packaged products, the increased individual demand attributable to national advertising and the open display resulting from the chain system of selling have been responsible for a studied economy in shelf space and an orderly and compact arrangement of packaged products which has necessarily lessened the individual appeal of each item.

As a regiment of soldiers advances toward you, the eye accepts the mass as one unit, individual features being disregarded in its acceptance of the whole, but the moment that half a dozen men step forward from the ranks the attention is immediately centered upon them and their individual features are seen and noticed. So the advertiser seeks to bring his products forward from the ranks to focus public attention upon them through prominence of position, and to suggest, by a forward advance from the shelves, a further possible advance into the homes of his prospective customers. He knows that, whatever may be said to the contrary, buying is by no means all planned beforehand, that the roving eye of the customer will fix itself upon the most prominently displayed items in the store, and that increased sales of his product will naturally result from interest awakened in this manner.

Included in the chapter "Specifications—Cartons and Display Containers" will be found a number of types

In this shelf or counter display, a metal foil background serves as a reflector and attracts immediate attention to the merchandise

of counter and shelf displays of folding boxboard which are available to the manufacturer who seeks to obtain special attention for his packages. In such types it is of importance that the displays do not involve too great intricacy as to setting up, and also that they be so designed as to occupy small space. A disregard of these considerations will not be viewed with favor by the retailer who is expected to use the displays.

EXCLUSIVE SET UP BOXES

Safety

KWICKLASP

AMERICA'S FINEST
MAILING BOX
FOR

Economy and Safety

Price List of Standard Size
on Request

W. H. DEISROTH COMPANY, INC.

Established 1875

713 Spring Garden St. Philadelphia, Pa.

XUM

Counter display basket which permits open display of goods within easy reach of the shopper. May be used for single products or an assortment. Courtesy, Forbes Lithograph Mfg. Co.

Other forms of paper displays range from plain or die cut card panels—to which packages may be attached or in which they may be inserted—to the so-called floor stands. The latter have recently come into considerable favor as "silent salesmen" and, occupying space which would otherwise be unused, they enable a greater showing of the goods which the retailer has to offer. These displays, for the most part, are of corrugated or solid fibreboard, although many examples of excellent lithographed displays on coated board are to be found doing duty in retail stores.

In window display of the package the scope is somewhat greater, as in a well-designed display the whole of the window space may be made available to one advertiser. The opportunity for artistic results is almost unlimited, but here, again, it is necessary to plan for an elastic display which may be adapted with ease to any size or shape of window.

The better the job is done, the more likely will the dealer be to use it; the more people it attracts to his windows, the better he will like it. There has been a great deal written and said about "dealer cooperation;" perhaps it is easy to forget what the word actually signifies. The dealer will be ready enough to cooperate where the advantage is mutual, when he can see that a display will actually make sales for his store of the product displayed and bring people into the store for other purchases also.

A successful window display may be based either upon the principle of harmony or the opposite principle of discord. A balanced and formal window attracts by virtue of its order and balanced design. This balance may be carried out in color harmony or in the pattern of its arrangement, or both. Or, on the other hand, attraction may be gained through a sudden departure from the orderly and ordinary, by a bizarre note of discord which strikes the eye, and which, when cleverly executed, will sometimes achieve results in attractiveness which would be impossible otherwise.

In both cases the first point of attraction must be the appeal to sense, or to the senses, in order that the advertiser's message may be instantly delivered, and interest for the product awakened.

The proper display of the package as an individual unit or as a group is a complementary link in the

This floor stand, known as the "Selmor", permits of ample display for a variety of brands. Courtesy of Hinde & Duuch Paper Co.

strategy of product selling. The display in such case furnishes an additional demand on the attention of the prospective customer, besides serving as an efficient silent salesman in that it provides a means of giving further information about the product.

The subject of displays is an extensive one and, as is the case with the individual package, each display must be regarded from the standpoint of its relationship to the product for which sales are being sought. The type selected, its location in the retail establishment, its ability to meet the competition with similar or dissimilar displays—these and other factors must be considered in plans made for effective package displays.

Volume Producers... of SOUND PACKAGING IDEAS

Only one kind of "Volume" is important . . . volume production of sound, original sales-producing packaging ideas.

Karl Voss Boxes are definite sales builders. They will interpret the character and enhance the appeal of your products.

KVC

KARL VOSS CORPORATION
Division of Shoup-Owens, Inc.
HOBOKEN NEW JERSEY

XUM

TYPES OF BAG CLOSURES

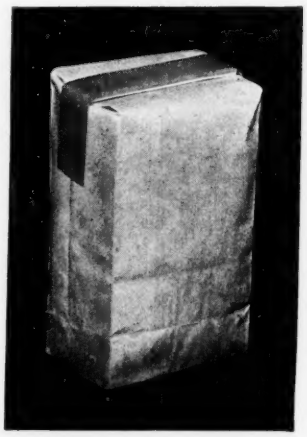
THE TYPES of bag closures shown in the accompanying illustrations are those ordinarily used for small size paper, foil and transparent cellulose bags, such as are detailed in the chapters on pages 103, 112 and 116.

For the larger size bags, such as the heavy duty, multiwall bags; bags for flour, cement, etc., there are special closures. Two of these, the Bates valve bag and the machine sewed bag, are shown on page 106. Others in this group are as follows: The hand sewed (thread) type which is used only on textile bags and is not tamper-proof. The hand tied (string) type which is used on both paper and textile bags. The wire tied type, used on both paper and textile bags and requires the use of a hand tool to apply. The Hamer closure, used on both paper and textile bags, which requires a machine to apply the metal ring clamped around the bag. The Duvall closure which is used only on paper bags, especially large sizes with multiwall. This requires a machine to apply, and in combination with a machine sewed snake stitch this closure is stronger than the walls of the bag. For flour and similar materials a special closure is used. The top portion of the bag is knocked entirely flat without tucking in the side panels, and folded in the usual way with a top label used as a seal. Such bags have two ears by which they can be handled easily, which is of advantage for fairly heavy flour and other bulk product bags.

Sealtite closure

The Sealtite closure which is produced on special equipment provides a convenient pouring spout when opened. A double fold produces a square flat-topped sift-proof seal which permits easy stacking and excellent display advertising value.

The Allison closure seals the contents with a triple fold and a strong strip of gummed paper tape. The folds are pressed firmly to the top of the material in the bag while the moist tape is rolled down over the sides.



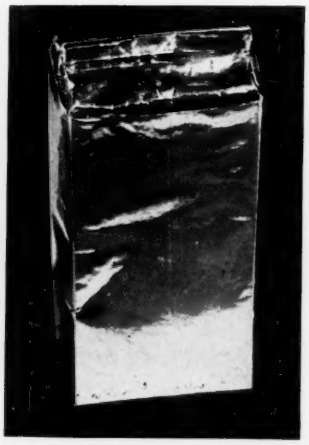
Allison closure

The square top or flat closure (also known as the Hesser) uses a card which is placed inside the bag in most cases. The bag top is folded down and sealed by gluing with a top label (not gummed) glued on in addition. This type may be varied in at least two ways. For easy sifting products like sugar, the gluing is done in a different way and sometimes the top label is left off. Then the outer wrapper is die cut, folded and glued top and bottom in a manner suggesting a band label around the bag.

The wire staple is the most economical. One or more staples may be used. Outside of its economy this closure is used when the material of the bag does not glue well, and when a tamper-proof seal is wanted.

Square top or flat closure

Wire staple closure



Hesser closure, foil bag

Tin-tie closure

Metal clip closure

Deltaseal closure

Probably the best known of the Hesser closures are the tin-tie closures, made in two different ways, as illustrated in the foil bag and tin-tie closures. In the foil bag the top folds are pressed flat and the top portion flares up. In the other style the bag top is rolled and pushed down. This rolled portion is left rather loose as that facilitates opening.

The metal clip closure is crimped over the folded edges of the bag. This is used on paper bags and especially on transparent cellulose or similar thin grades where care must be taken to prevent tearing. The clip requires a tool for its application.

The Deltaseal is used only on paper bags and requires a special machine for its application. As may be seen from the illustration, the flaps are folded in such a way as to enable the lifting of one end so that it may be cut along a perforated line without disturbing the other folds. When cut in the manner shown, the opened end forms a convenient pouring spout. The top of the bag, sealed, presents a flat surface—a definite advantage in stacking on counters or shelves.

Each of the types illustrated and described has its advantages, depending on the product to be contained, the material from which the bag is made and the conditions surrounding production of the package.

With the exception of the stapled bag—and this too may be closed by automatic instead of hand equipment—all of the closures shown require machine units for sealing. Such units for folding and sealing are usually integral with or included as a part of the weighing and filling equipment.

In the closing of the larger size bags there is a definite advantage, providing of course that production conditions are equal, in machine versus hand-closing of bags. According to actual figures, obtained at one plant where both operations were used, the cost of machine sewing is approximately one third that of hand sewing.

In general, the consideration of bag closures is of equal importance with that of the material from which the bags are made and their construction. It is essential, then, that manufacturers of bag closures and machines for forming them be freely consulted.

METAL FOIL BAGS

METAL BAGS are the newest development in the bag industry. They are sometimes referred to as "flexible metal cans" because of the high degree of protection afforded their contents by the real metal stock from which they are fabricated.

The metal bag consists of a thin sheet of shiny, flexible aluminum metal laminated to paper (glassine, grease-proof, bond, cellulose, etc.) and formed into a bag. The metal surface is usually exposed and when printed in bright colors results in a package having powerful eye-appeal and can therefore attract unusual attention when displayed.

Surpassing the eye-appeal value of the metal bag, however, is its remarkable protective properties, of which the limited scope of this article permits only a brief description. Foremost among these protective features is the fact that the metal bag excludes all light—light which otherwise causes rancidity and spoilage. For example, such products as potato chips and salted nuts are especially sensitive to light, only a couple of hours' exposure being sufficient to cause a photo-chemical reaction which results in rancidity. But in metal bags, potato chips, nuts, and numerous other light sensitive products have been exposed to 240 hours

Types of metal foil printed bags as used for food products are shown in the two illustrations at left. At right, plain metal foil bag as used inside a metal container

of light without being affected in any manner at all.

A second important feature of the metal bag is its resistance to moisture transmission. Moisture simply cannot escape through or penetrate into the solid metal bag wall. For instance, metal bags of potato chips after 40 hours continued exposure to saturated atmospheric conditions (95-100 per cent R. H.) at 100 deg. F. showed only 0.99 per cent moisture absorption, against 18.70 per cent absorption by a non-metal bag under identical conditions. Marshmallows have been kept soft and fluffy in a "desert atmosphere" (0.5 per cent R. H. 100 deg. F.) for 600 hours, losing less than one per cent of their moisture (0.86 per cent). Ready-to-bake cake mix retained its leavening power indefinitely when placed in metal foil bags.

Metal bags are made in both the square type and flat type, and both are available in the duplex style, that is with an extra inner liner of glassine, parchment, grease-proof, or other papers.

The bags are used either inside an outer paper carton or can, in which case they are unprinted, or used alone when they are printed in one, two, or more colors. Tin ties can be provided which give the bag an excellent closure and a reseal device enabling the consumer to securely close the bag each time, thus keeping the contents in better condition.

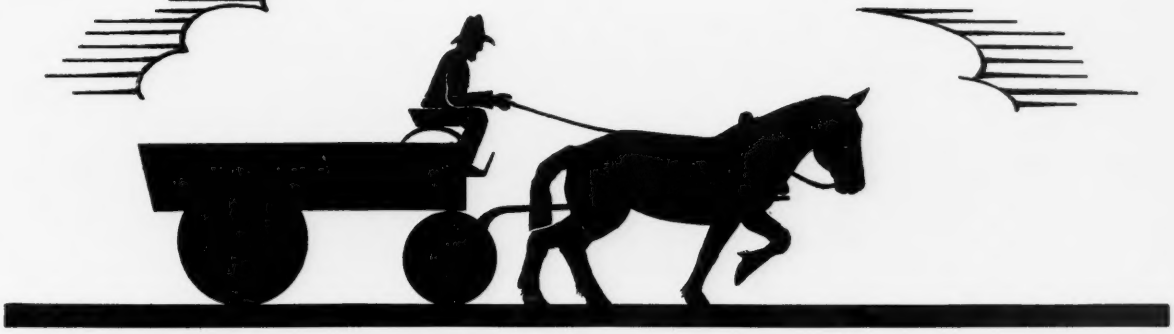
HEAVY DUTY MULTIWALL PAPER BAGS

BY W. E. SCOTT

PAPER BAGS of the heavy duty multiwall type are a comparatively new addition to the field of slack cooperage, having come into general use only as recently as the year 1925. These bags are designed to hold from 50 to 140 lbs. of commodity and may be constructed of from three to six walls of heavy kraft paper, depending on the weight, density and physical characteristics of the product they are intended to carry. The principal shipping unit is generally 100 lbs. Commodities ranging in value from a fraction of a cent to almost nine cents per pound are being shipped all over the country daily in this weight unit on the lines of the common carriers and many manufacturers have found this type of container to be ideally suited from both the economical as well as the utilitarian standpoint for units ranging in weight to as low as 50 lbs.

It has been long recognized by manufacturers and authorities in the field of package engineering that a bag constructed of several or more walls of strong kraft paper has all the elements of a successful bulk container for certain types of products generally shipped in slack cooperage, but the lack of a suitable means of weighing, filling, closing and sealing the several commodities in them precluded their large scale use, thus barring them from commercial application. Years of engineering and research have overcome all this. Closures as strong as the body of the bag have been developed and the past few years have witnessed the development of mechanical equipment as well as a perfection in the art of bag manufacturing that makes the use of these economical containers entirely practicable for use with many products.

GOIN'T' MARKET



Whether it's the farmer's creaking and loaded wagon or your paper bag—the problem's the same. Strong horse, strong wagon goin' t' market, they'll get there.

Likewise good strong Amkleer Bags "git" to market. The strong bottoms of Amkleer Satchel Bottom Bags with their reinforcing colored strip "get t' market" safely and satisfactorily. Wear resisting and powder-tight, too.

We also make flat and square Amkleer Bags. A large constant stock of these lines in a variety of sizes make quick delivery certain. Glad to answer all your inquiries. Write

THE AMERICAN PAPER GOODS COMPANY

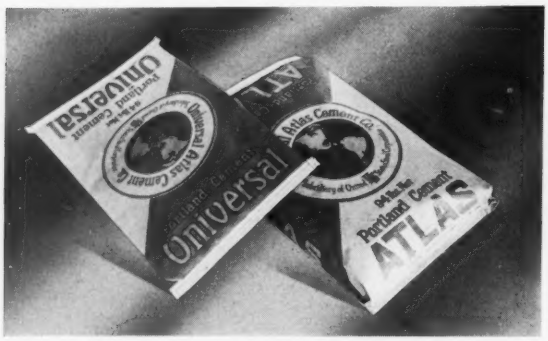
KENSINGTON, CONN. . . . . CHICAGO, ILL.

SALES OFFICES

NEW YORK · BOSTON · SAN FRANCISCO

ATLANTA . PHILADELPHIA

Paper is one of the finest insulating mediums known and it has been found that paper bags of this heavy duty type give many sensitive commodities the maximum of protection against moisture and changing conditions of temperature, humidity, etc., thus insuring a stabilized condition of the produce free from hardening, caking and those defects attendant to a porous container. Some commodities require a superprotection against these conditions—this is taken care of by building into the bag one or more walls of one of sev-



Valve bags. Valve shows in lower left corner of bags on left

eral types of moisture-resistant papers. Such commodities as calcium chloride, cyanamid and slack lime, etc., are carried in bags of this construction.

These heavy duty bags offer not only a high protection to those commodities having an affinity for moisture but, in the case of fine foodstuffs, offer a clean, sanitary container free from dirt and the danger of outside contamination. Whether at the factory, in a railroad car or steamer, or in the hands of the ultimate consumer, the factor of cleanliness alone makes them the logical container for many products. When this is combined with every other requisite of strength, advertising display value, low cost, moisture-resistance, freedom from sifting, etc., it can be compared to its decided advantage with any other type of bulk container.

There are two types of heavy duty multiwall paper bags in general use. These are the valve bag and the open mouth bag.

The Valve bag: The valve bag is factory closed; by this is meant that it has been closed both top and bottom at the point of manufacture. This closure will have been effected by either pasting or sewing. A small triangular opening called the "valve" is left open at the top and the bag is filled in the customer's plant by means of special machines which force the material into the bag under pressure. When filled, the pressure of the material against the walls of the bag automatically shuts the valve and the bag is closed and ready for shipment. This bag makes a splendid container for many products and lends itself particularly to the packaging of commodities of a light, fluffy character that can be readily handled by the filling machines. Many millions of them are used annually in the rock products industry carrying 100-lb. units principally.

The Open Mouth bag: The open mouth bag is factory closed at the bottom only. The top of the bag is left open ready to receive its load from the filling equipment in the customer's plant. Since the process of filling an open mouth bag is much more gentle in action than the pressure method used with the valve bag, there is less chance of altering or breaking down the original structure of the material when this type of bag is employed. This is an important point, especially where so many commodities, such as many fine food products, are sold on "structure." After the bag is filled, it is then closed by sewing with a reinforced stitch, duplicating the factory closure on the bottom of the bag. This method makes the closure as strong as, if not stronger than, the body of the bag—a most important point since, after all, a bag is only as strong as its closure. There are still a few sections of the country where the old-fashioned method of closing, either by tying or pasting, is still employed, but this slow operation is expensive and effects a closure that is hardly adequate in strength and which is seldom, if ever, siftproof. This method of closure, however, is rapidly disappearing. References to closure and bag construction in this article apply only to those bags employed as heavy duty bulk containers and must not be confused with the many splendid closures developed for special and fancy light weight paper bags which do not come under the heading of this article.

Open mouth multiwall paper bags. The filled bag has made a journey of over one thousand miles in an L.C.L. shipment

Manufacturers of the heavy duty multiwall type bag have established a most rigid standard of laboratory control in the development and manufacture of these bags. Forgetting the chemistry, the enormous equipment, the elaborate controls, the repeated tests at every stage of the processes that go into the making of a sheet of kraft paper, let us think of the processes that determine the *right* bag for 100 lbs. of any commodity.

First, a study of the character of the product is made, its susceptibility to moisture and humidity, the conditions under which the bags are filled, shipped, stored and otherwise handled.

Second, many different sample bags are made—carefully tailored to the measure of the product. These are filled and "drop" tested to determine the strength of paper and number of walls required. *Only* after a model bag has been developed which has scientifically

MODERN BAG PACKAGES

Speaking for themselves!

PAPER–CELLULOSE–FOIL

NEW YORK
CHICAGO
BOSTON
DETROIT
BALTIMORE
PHILADELPHIA
CLEVELAND
MINNEAPOLIS

Benj C Betner Co

MANUFACTURERS OF
High Grade Bags

ST LOUIS
NEW ORLEANS
SAN FRANCISCO
SEATTLE
HOUSTON
OMAHA
DENVER
LOS ANGELES

Devon Penna

XUM

Sell-o-face bag formed from bond paper and Cellophane.

Old style square type made of bond paper. Tin-tie closure.

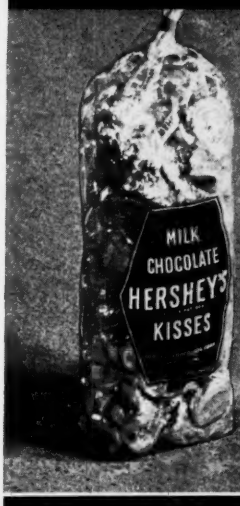
Bags BY ROYAL

MADE OF VARIOUS TYPES OF PAPER, GLASSINE OR CELLOPHANE, OR FROM COMBINATIONS OF THESE MATERIALS, AND WITH EVERY VARIETY OF FINE PRINTING, BAGS BY ROYAL LEND SPARKLE AND SALES APPEAL TO A THOUSAND-AND-ONE VARIED PRODUCTS.

Write for Samples

Royal Airoseal coffee bag of bond paper, covered with Cellophane. Tin-tie closure.

All Cellophane, square bottom, duplex type.

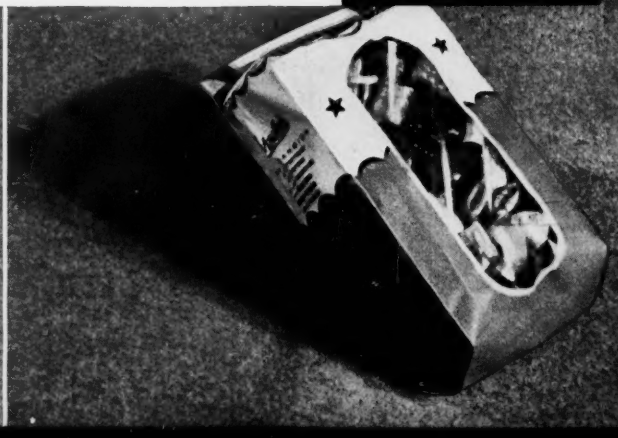


THOMAS M ROYAL & CO
PHILADELPHIA USA

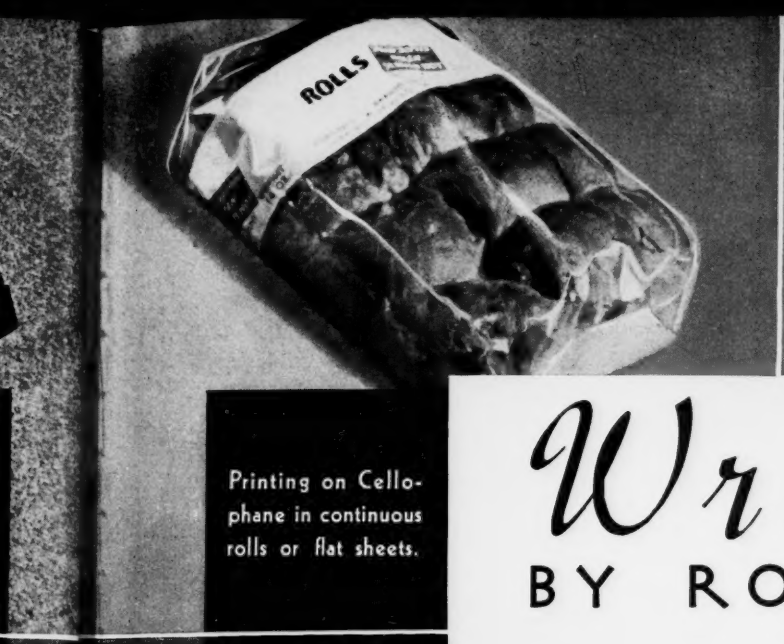
NEW YORK CHICAGO DETROIT PITTSBURGH BOSTON
ST. LOUIS MINNEAPOLIS SAN FRANCISCO DAYTON SYRACUSE
FORT WORTH ATLANTA HOUSTON

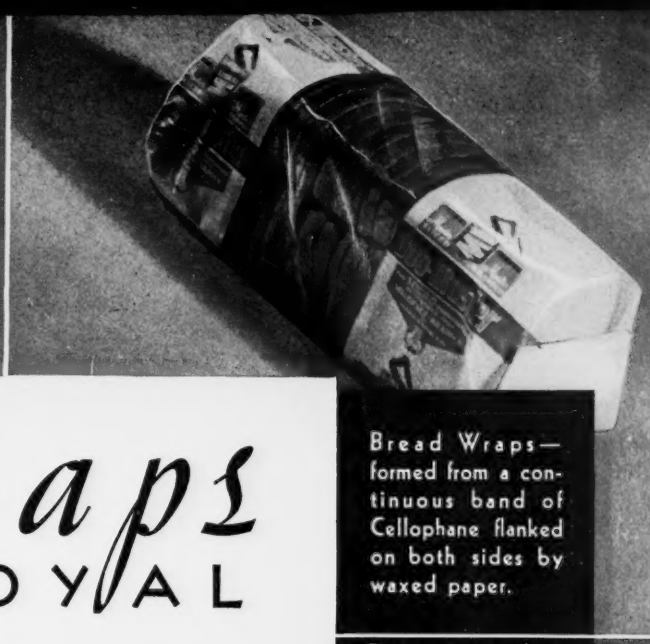
Square bottom bag of waxed glassine.

Die cut window bag of bond paper with Cellophane window.



XUM





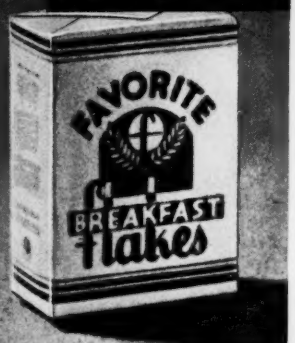
Printing on Cellophane in continuous rolls or flat sheets.

Wraps BY ROYAL

Bread Wraps—formed from a continuous band of Cellophane flanked on both sides by waxed paper.

Spot-printed Wraps—continuous rolls for use in tight-wrapping where exact register is obtained with the electric eye.

Die-cut window Wraps of Cellophane and any paper, sheeted for hand wrapping—continuous rolls for machine wrapping.



OFFERING A COMBINATION OF MATERIALS, FINE PRINTING AND EXPERT STYLING DESIGNED TO BRING NEW SALES ADVANTAGES TO A HOST OF PRODUCTS WHICH MAY NOW BE REPOSING ON BACK SHELVES.

Write for Information

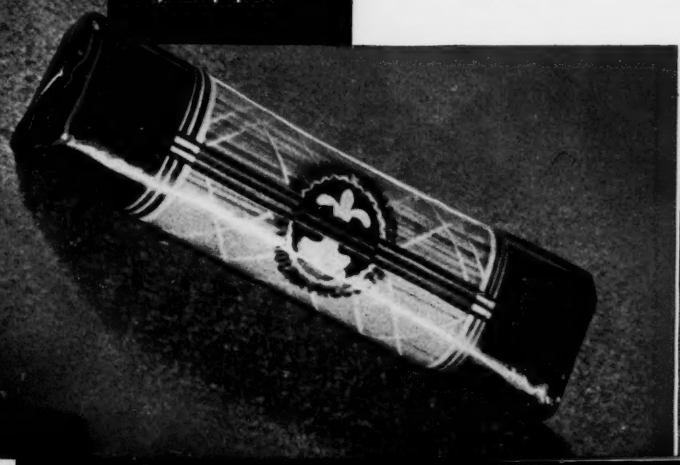
THOMAS M ROYAL & CO

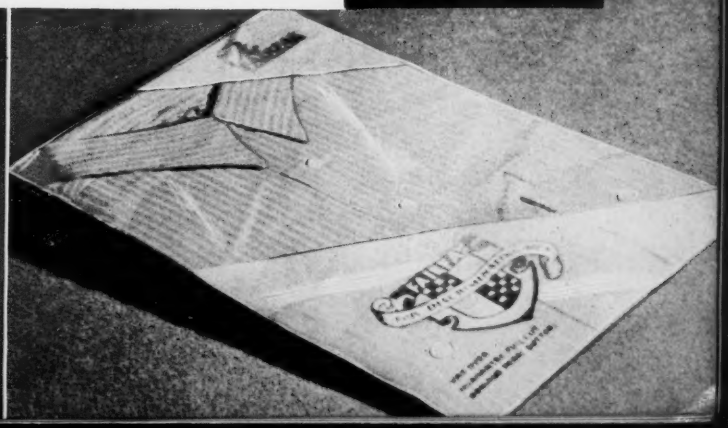
PHILADELPHIA U S A

NEW YORK CHICAGO DETROIT PITTSBURGH BOSTON
ST. LOUIS MINNEAPOLIS SAN FRANCISCO DAYTON SYRACUSE
FORT WORTH ATLANTA HOUSTON

Sheeted Wraps cut to size and made of Cellophane, waxed or plain paper.

Sheeted Wraps combining a continuous strip of Cellophane and any paper.





XUM

proved to be the *right* bag is it put into the processes of manufacture.

Due to the availability of perfected mechanical equipment that weighs, fills, closes and seals the material into them, the heavy duty multiwall paper bag is rapidly growing in use—so much so, that over 500,000,000 were used last year carrying, principally, units of 100 lbs., with the current chart revealing an upward production curve that will exceed that figure this year. In the cement industry the use of paper bags has grown from 15.2 per cent of total shipments in 1925 to 48.1 per cent in 1933. The chemical field is following along the same lines; these bags coming into an ever-growing use as containers for such products as soda ash, bicarbonate of soda, calcium chloride, fertilizers and many others. Makers of delicate foodstuffs, such as cocoa, sugar, rice, salt, flour, etc., which are subject to various forms of deterioration in packing, shipping and storing, are rapidly turning to them. No two bags are alike for these varied products and in each and every case, the processes of research and development, as described above, are carried out in order to insure the correct and most economical package for the exact problem in hand. This care on the part of the manufacturer, plus perfected mechanical equipment and closure, has without question brought the heavy duty multiwall paper bag to its present high standing as a bulk shipping container, the advantages of which might be listed in part as follows:

Tight safe closure: No losses of product; no sifting; no dirt in customer's plant, distributor's warehouse, or user's premises. No contamination of contents.

Moisture-resistant: Protection of soluble ingredients from moisture, whether in the air or from direct contact with water. Leaking freight cars or pipe drip in the holds of steamers hold no terrors for this bag.

Vermin-proof: Freight cars or steamers may be infested from previous cargoes, but the heavy duty multiwall bag will prevent infestation of contents.

Easy lifting and handling.

Safe storage means much to dealer and user. Bags stack easily.

Sales value: Trade mark or brand name on a printed paper bag—vivid, impressive.

Low cost: The package *costs less* and the *packaging costs less.*

PROPERTIES AND USES OF TEXTILE BAGS

TEXTILE BAGS, as the name implies, are made from woven fabrics of various kinds. There are four important types in common use.

1. *Cotton bags.* Many different styles of goods are used in making cotton bags, special constructions being designed to serve particular or unusual purposes.

2. *Burlap bags.* Jute, from which burlap bags are made, is a product of India. Burlap goods are made in India for the most part, although limited quantities of European made goods are available. Many different widths and weights of goods are used in making bags. The common widths of burlap run from 32 in. to 45 in., and the common weights from 7 oz. to 12 oz. Besides this, there are many special constructions designed for particular purposes. Burlap being imported from India necessitates an anticipation of supplies at least six months in advance as it takes considerable time to get the goods to this country after the order is placed. Burlap bags, because of their strength and low cost, are the most widely used containers for bulk products.

3. *Laminated bags.* These bags are made from either cotton or burlap goods and have a paper lining which is attached to the cloth by an adhesive. Any of the various constructions of goods used in making cotton and burlap bags may be employed in making laminated bags. The bags may have one or more plies of paper lining. The lining is attached by special adhesives. These adhesives may be of such characteristics as to make the bag waterproof or to give it some other quality which may be required. Laminated bags are used extensively as shipping containers for chemicals and food products.

4. *Paper fabric bags.* These bags are a comparatively new development. They are made from strips of tough paper, spun into yarn, and woven into open-mesh cloth. Many brilliant colors of goods are available. Paper fabric bags are used principally as containers for fresh fruits and vegetables.

Textile bags have certain characteristics which make them economical and practical containers.

Textile bags are light. They are thus easy to handle and labor costs and freight charges are correspondingly low. The tare weight of textile bags is frequently 80 per cent less than that of wooden containers. Freight savings may be 8 or 9 per cent less when bags are used.

Textile bags are inexpensive. As compared with most types of containers, textile bags are cheap, due consideration being given to the safe transportation of the contents to destination.

Textile bags require little storage space. 500 bags, in a compressed bale, occupy the same space as one barrel.

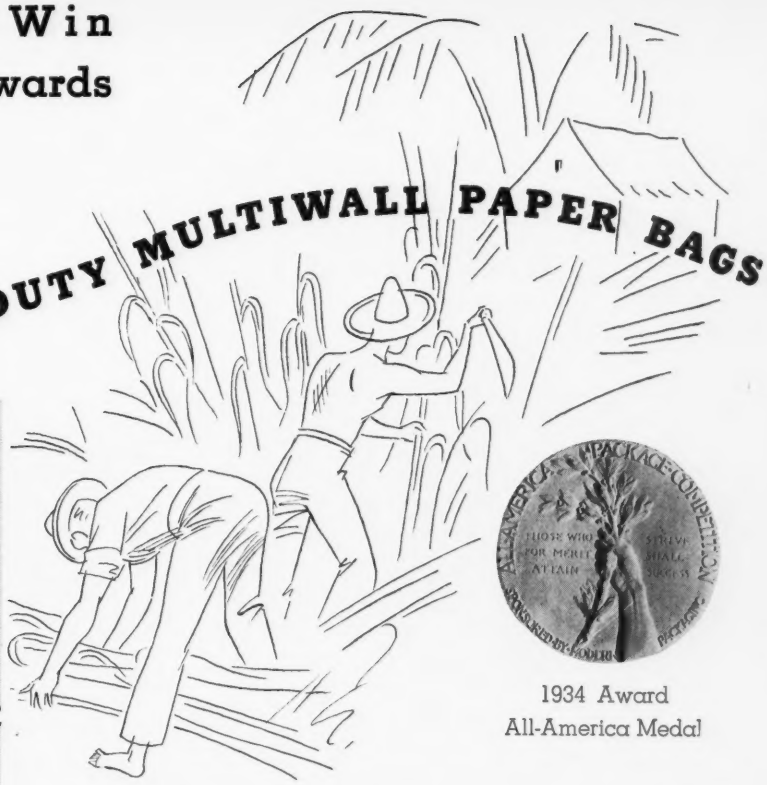
Textile bags can be printed. Attractive multicolor brands can be printed on bags as well as formulas, instructions, and other information which may be necessary, thus stenciling and labeling with the involved labor cost, is eliminated.

Textile bags have good salvage value. The receiver of products packed in bags, either has uses for the

First Heavy Duty Paper Bag to Win High Packaging Awards

★

BAGPAK HEAVY DUTY MULTIWALL PAPER BAGS



1934 Award
All-America Medal

. . . in combination with Bagpaker equipment our bags offer *new economies* and *advantages* to the user of heavy duty bulk shipping containers . . . these bags successfully transport commodities in units ranging from 50 to more than 100 pounds . . . and are meeting with an ever increasing use for the successful transportation of such commodities as Sugar, Cocoa, Feeds, Fertilizer, Heavy Chemicals, etc.

. . . these tough, strong, husky bags, with their sturdy sewn closure and attractive printing, *guarantee safe arrival* of their contents, no matter how far or difficult the journey . . . every Bagpak bag offers *complete insurance* against *Sifting, Moisture, Dirt, Vermin, Contamination* and *Pilferage.*

. . . it has been truly said that Bagpak equipment and bags mark the *greatest advance* and *improvement* that has occurred in the field of slack cooperage in the past ten years . . . a fact which is today *revolutionizing the packaging operations of many industries.*

. . . FULL DETAILS ON REQUEST, JUST WRITE US.

BAGPAK INC
220 East 42nd Street New York City

Potatoes in open mesh bags make colorful mass floor or counter displays. Consumers like these bags because they can see what they buy.

empty bags himself, or if not, he can sell them at a good price as there is a steady demand for used bags.

Textile bags have two principal uses:

1. *As shipping containers for bulk products.* Food, agricultural, and industrial products, particularly those of a powdered or granular nature, are packed for shipment in bags. Flour, salt, grain, seeds, feeds, fertilizers, cement, chemicals, and hundreds of other bulk products are shipped in textile bags.

2. *As consumer packages.* During recent years the use of consumer packages has been one of the outstanding developments in the retail merchandising field. One of the most significant developments in consumer packaging has been the use of open-mesh bags for fresh fruits and vegetables. These bags are made with a band around the center, on which brands and trade marks may be printed in attractive colors. Frequently, this printing gives the effect of lithographed labels.

Consumer-size open-mesh bags are used for merchandising onions, potatoes, carrots, apples, oranges, nuts, and other fruits and vegetables. Oranges are shipped in 5 and 8 lb. open-mesh bags from Florida without an outer container. Potatoes are shipped in 15 lb. open-mesh bags from Maine and Idaho. Onions in 10 lb. bags are shipped from Massachusetts, Ohio, New York, Indiana, Michigan, Minnesota, Idaho, Washington, Oregon, and California, to mention a few of the important shipping states.

Consumer-size bags for fruits and vegetables have proved to be a boon to retailers. These packages make splendid store displays as can be seen from the accompanying photographs. The unit of sale is increased from 2 to 3 lbs. to 5 to 15 lbs. Clerks are saved the time of counting out, weighing, and wrapping up each customer's purchase. More customers can be waited on in less time, which is an important factor particularly in rush hours.

STYLES AND USES OF SPECIAL AND FANCY PAPER BAGS

BY WILLIAM O. ROGERS, JR.

STRANGE as it may seem, there are still packers and shippers who regard the paper bag as a "poke." This is so far from the fact that it is like thinking of an automobile in terms of the one-cylinder buggy-wheeled vehicle of many years ago.

Naturally, like all other containers, the paper bag has certain definite limitations but its fields of usefulness are many and the purpose of this article is to attempt to point out some of those fields and some of the limitations as well. There are seven advantages which, alone or in combination, give the paper bag its place in the packaging field. These are listed below:

1. Economy
2. Protection
3. Identification
4. Unit of Measure
5. Liners
6. Display Package
7. Shipping Unit

Here are some typical examples of the application of paper bags to these fields of usefulness:

Economy: Early in 1935 a prominent coffee roaster changed from a relatively expensive container to a less expensive, attractive and efficient paper bag. By doing this, the coffee roaster was able to reduce the price of his coffee to the consumer, and increase his market.

Protection: A manufacturer of paint brushes uses an attractively printed paper bag to protect the bristles of his brushes against damage in shipment. Many manufacturers of shirts and underwear use paper bags for the same purpose. Where protection from dust, soilage and handling is important, the paper bag offers an economical and efficient solution.

Identification: In order to protect themselves from the activities of "bootleg" parts manufacturers and to

With
EYE APPEAL . .
the Sale is made

QUALITY
Bags of
Cellophane
TRADE MARK

A COMPLETE BAG
OF MOISTURE PROOF
"CELLOPHANE"
REINFORCED WITH
COLORED "CELLOPHANE"

PATENTED JULY 19. 1932 NUMBER 1.868.069

OUR QUALITY
OUR SERVICE
OUR PRICE
Will please you

Double protection
against MOISTURE
AND BREAKAGE

—The
MUNSON BAG COMPANY
· CLEVELAND · OHIO ·

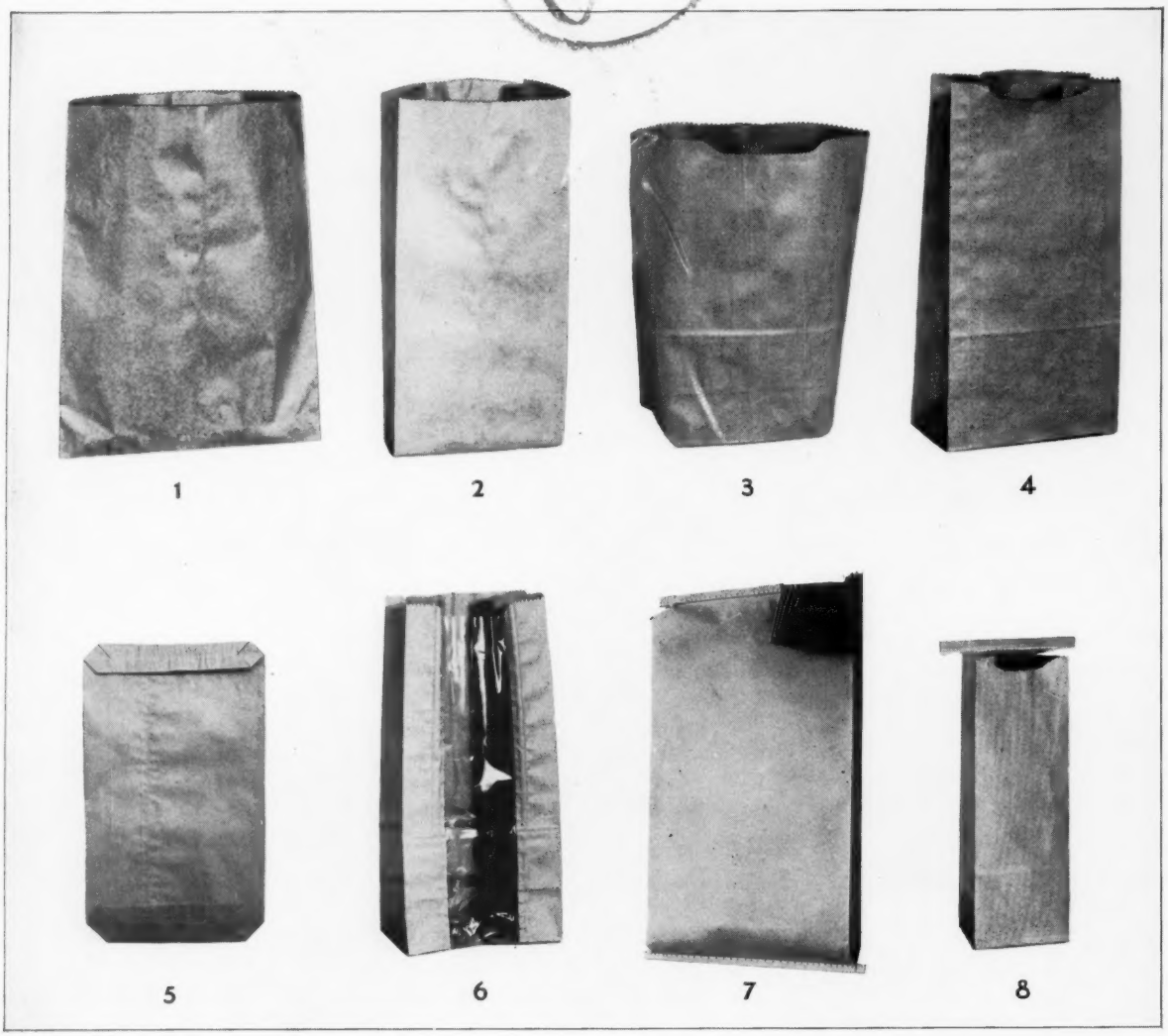
make sure that dealers and car owners get genuine factory replacement parts, the larger automobile manufacturers are using paper bags to identify parts not easily stamped or trade-marked. Such articles as gaskets, bumpers and countless small parts are now being packaged in sturdy, attractively printed paper bags.

Unit of Measure: Often it is desirable that the ultimate users of the product receive a pre-measured quantity. A common example of this is in the case of coffee urns and other coffee-making devices, where a uniformly good cup of coffee can best be obtained by using the same predetermined quantity of ground coffee for each batch. Again, where products such as powdered insecticides have to be mixed with water before application, a paper bag provides a safe and convenient method of furnishing the consumer with exactly the right quantity.

Liners: Many dry products which are packed in tin, or in cartons need to be kept from contact with the wall of the container. Most manufacturers of drug products find paper bags indispensable for this purpose. On the other hand, products such as prepared biscuit flours, which contain a high percentage of free fat, need an extra greaseproof lining to prevent staining of the outside container. The economy and flexibility of the paper bag make it ideal for such purposes.

Display Packages: While the paper bag has long served as a display package for such products as coffee and flour, the advent of transparent cellulose bags, and the vast improvement in bag printing, have transformed the paper bag into a true display package.

Shipping Units: For non-rigid or semi-rigid products the heavy paper bag recommends itself as the most economical shipping container available. The heavy square bag used for shipping twenty-four one pound units of coffee safely and economically is a good example of this field of service. Textile products, cotton bats, and similar non-rigid articles are further exam-



General styles of paper bags. 1. Flat bag with straight plain bottom. 2. Square bag opened with bottom formed. 3. Satchel bottom bag. 4. Automatic shape bag. 5. Valve bag, pasted top and bottom. 6. Combined bag, automatic shape. Transparent cellulose and kraft. 7. Valve bag sewn top and bottom. 8. Automatic shape with tin-tie closure.

Burst it
... IF YOU CAN

U. S. E. Satchel Bottom Bag Patent Pending

Free samples sent to aid you to make this Test yourself

Yes, burst it—if you can—in the manner you, as a kid, doubtless delighted to startle the folks by bursting a grocer's bag.

Sounds like a boastful challenge? It is—and a prideful one too. For this test, which you can easily make yourself, proves that U. S. E. bags are stronger.

Try this test, and prove to your full satisfaction that U. S. E. Bags and Envelopes are Better Built—that their stronger construction will carry your products safely, and presentably to the ultimate consumer, and multiply the buy-appeal of the sparkling transparent cellulose package.

Your products deserve the strongest, safest package as well as the most attractive. You get both in U. S. E. Better Built Bags and Envelopes—at no additional cost.

Send for U. S. E. free samples and test them. The results will convince you. Address Transparent Container Department, United States Envelope Company, Springfield, Mass.

FACTS that Insure and Sell your Package—if it's U. S. E. built.

1. Rolled folds—originated by U. S. E.
2. Smooth edges—first introduced on square style bag by U. S. E.
3. Special adhesives—burst-proof by test.
4. Reinforced satchel bottom—by actual test the strongest.
5. Sparkling cellulose, brilliant printing—most buy-appeal.

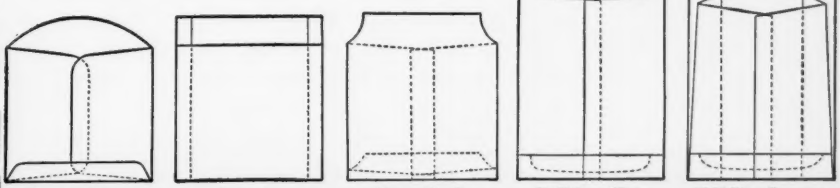
U. S. E. Offers a Complete Range of Styles and Sizes including Satchel Bottom Bags and the other styles indicated below

Sample Test Kit—FREE

We could offer a prize to anyone who bursts a U. S. E. bag this way! But your discovery of the strongest bag (against any competition) will be ample reward (satisfaction and saving to you) we are sure.

U.S.E.

Better Built
TRANSPARENT
BAGS AND ENVELOPES



Center Seam | Pac-ket | View-Pack | E-Z Pac Flat | E-Z Pac Square

ples of products that can be so packed for shipment.

The adaptation of a custom-made paper bag to a particular product should, of course, be entrusted to one who has a thorough knowledge of the technical problems involved. However, a short discussion of the styles and shapes of bags available might serve as a general guide to interested designers and packagers.

There are four shapes of bags available. These are, namely, the flat, the square, the satchel bottom, and the automatic or self-opening. Each shape serves its own specific purpose and has its own advantages and disadvantages over the other shapes. A brief discussion of these follows:

The Flat bag: This shape, as may be seen from the accompanying illustration, is simply a tube of paper with one end turned over and pasted down to form the bottom. Due to its more rapid speed of production this is the most economical shape of machine-made paper bag. However, since it has no gusset or tuck at the side, to pre-form the bottom, the contents will necessarily bulge out. In many cases this is an advantage since it gives the appearance of extra bulk or quantity. This shape is best suited for stapling to display cards or for placing flat in a display case, for since it lacks a pre-formed bottom, it is unable to stand alone.

The Square bag: This differs from the Flat bag in that it has a tuck or gusset at each side. The bottom can be formed by thrusting the hand inside of the bag and squaring it out. Because it has three definite dimensions, the Square bag is better adapted to package articles of a cubical form.

The Satchel Bottom bag: This shape is made from a flat tube without tuck or gussets in the side, but does have a small diamond shaped pre-formed bottom. The chief advantages of this shape are:

1. Its wide mouth which makes filling easier; and
2. Its pre-formed bottom which enables the bag to stand upright while being filled.

If the product contains a dry or powdered substance, the Satchel Bottom bag will tend to be oval in shape when filled.

The Automatic bag: This shape, sometimes known as the Self-Opening, is in some respects the most efficient of all machine-made paper bags. Due to the extreme complications of manufacturing the square pre-formed bottom, it is relatively more expensive than the other shapes of machine-made bags and somewhat more inflexible in its available combinations of dimensions. It can, however, be opened easily and stands absolutely upright, either empty or filled.

STYLES AND USES OF TRANSPARENT BAGS

BY GORDON H. FRIEND

WHEN bags of transparent cellulose were first offered to the trades they were accepted (sometimes almost reluctantly) as a novelty. Manufacturers in many businesses found that through the use of a transparent package they frequently doubled and even trebled their sales. They discovered, sometimes to their own amazement, that markups could be increased to more than cover the extra packaging cost, and continue to show tremendous sales increases.

Still, even the most successful users were skeptical. For the most part they believed that transparent packaging was a novel sales idea, a sort of "dodge" for outwitting competition. It was a wide-spread prediction that when the use of a cellulose package became general in a given field, sales would revert to the old level and everyone would be exactly where he started. But time has disproven these calculations and, instead, transparent packaging made possible many new retail outlets. It brought hundreds of items out of remote storage places and into prominent display positions on the dealers' shelves and counters. It made fast selling specialties out of slow moving staples, and greatly increased the total consumption of many products.

Transparent packaging is no longer considered a novelty. Improved manufacturing methods and lower material costs continue to widen the field of usefulness for cellulose bags and bags with cellulose windows.

Transparent bags are divided into three major style classifications: flat, square and satchel bottom. Figs. 1, 2 and 3 illustrate these styles. Each of these three styles may be again divided into two subclassifications: full transparent (a bag made entirely of cellulose) and window style (a paper bag having a strip of cellulose inlaid on the face of the package). The materials used may be plain, moistureproof or heat sealing transparent cellulose, colored or plain.

Flat bags and bags with tucks are available in an almost endless variety of styles and shapes, ranging in size from a flat bag small enough to contain an aspirin tablet, to a square bag large enough to package a woolen blanket. They may be made of a single sheet of cellulose either plain or moistureproof, or they may be double-walled (duplex). They may be printed in any size and from one color on the face only to four colors in all-over pattern and will be found suitable for a wide range of products.

PLAIN *or* PRINTED
TRANSPARENT ENVELOPES *and* BAGS
.... all types! all sizes! on short order!

Our modern plant and equipment give us real advantages on flat, satchel bottom and square Cellophane bags (either plain or printed) and on Cellophane tubes.

Superior Cupples-Hesse bag improvements—specially designed bottom reinforcements, thumb-cuts and rolled edges, add advantages for our customers.

Shown above are but a few of the hundreds of bags . . . of all types . . . made in our plant. Let us analyze your requirements, submit quotations and suggestions, without obligation.

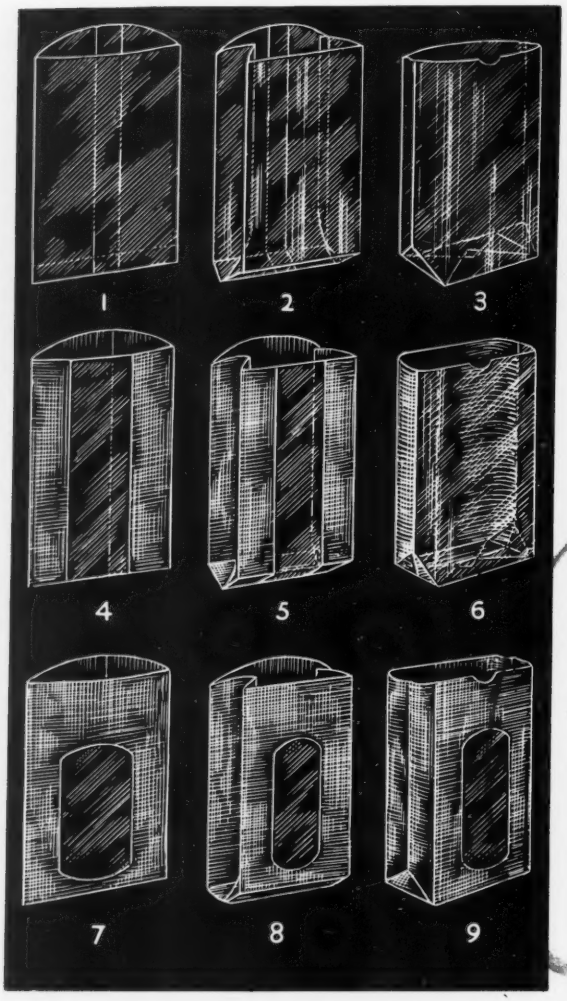
CUPPLES — HESSE

Envelope and Litho. Company

Glassine and Cellulose Division

4169 N. Kingshighway St. Louis, Mo.

Satchel bottom bags are used extensively by confectioners for packing bulk items, candies, nuts, etc. They are especially desirable for packaging dry groceries; rice, beans, peas, dried fruits and countless other bulks. Among the miscellaneous items packed in satchel bottom bags we find such products as grass seed, sea shells, cigar clippings and doughnuts. The outstanding advantage of the satchel bottom bag is its flat bottom, enabling the package to stand upright when packed with merchandise.



General types of transparent bags. 1. Flat. 2. Square. 3. Satchel. 4. Flat, window style. 5. Square, window style. 6. Satchel, half & half. 7. Flat, die cut, window style. 8. Square, die cut, window style. 9. Satchel, die cut, window style.

Cardboard inserts are frequently used to give added rigidity and shape to the top and bottom of the package. Gummed seals are then applied to both ends to lend a finishing touch to its appearance. Until recently it has been necessary to insert these cardboards by hand at the time of packing; however, cellulose satchel bottom bags with "built-in" board bottoms are obtainable.

The idea of making double walled or duplex bags is an old one, but has been applied to transparent bags only recently, due to manufacturing difficulties.

The use of duplex bags has arisen almost entirely through a requirement for additional protective qualities. It has, therefore, found wide favor, particularly among packers of food products. In many cases, however, the packer specifies the cheaper plain cellulose for the outer sheet—a maneuver which almost defeats itself where protection is the object. The unusual hygroscopic characteristics of plain cellulose may cause shrinkage or expansion which will spoil the appearance of such a bag. To get the full benefit of a duplex bag, both sheets should be moistureproof cellulose. Secondarily, the need for extra strength has promoted the use of duplex bags.

Flat bags are seldom made duplex because they are invariably used for packaging small light articles.

Square bags and satchel bottom bags lend themselves readily to duplexing. The construction of these packages permits the manufacturer to print on the inside surface of the outside sheet—a procedure producing a lustrous effect which cannot be matched by any other method of printing.

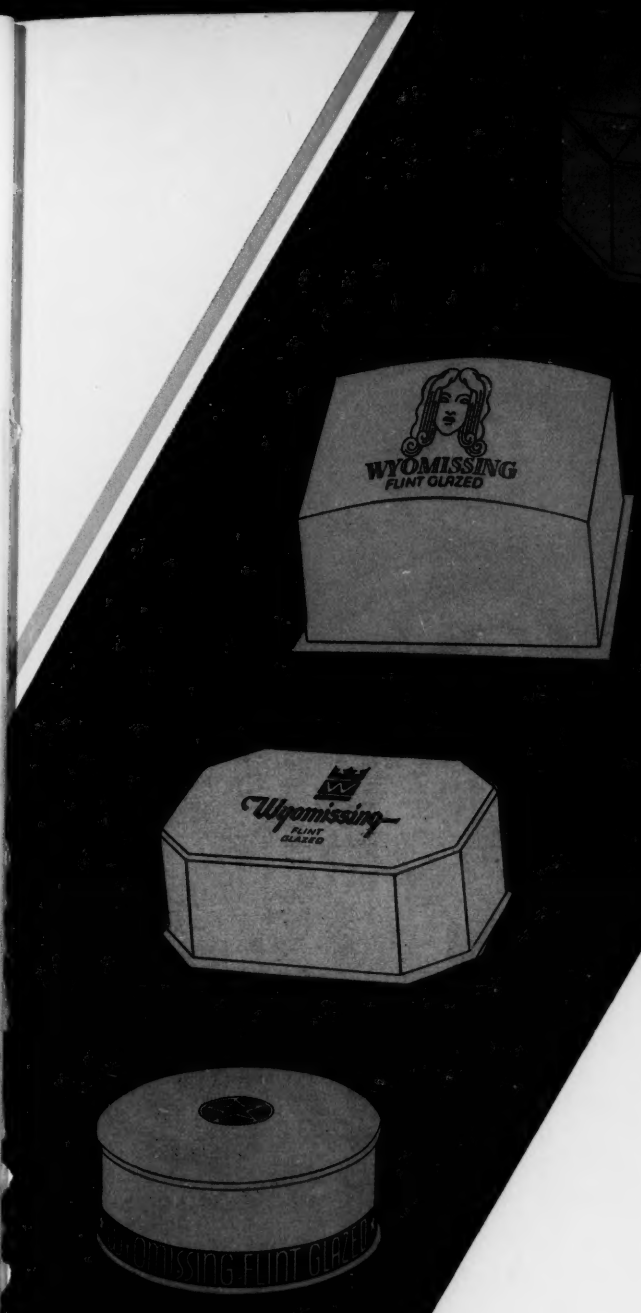
Another minor point in favor of duplex bags is their superior rigidity. This in many cases speeds up packing, handling, and enhances the value of the bag as a display piece.

Combination or window bags continue to expand their field of usefulness where visibility and economy are essential requisites. There are countless papers that may be fabricated with transparent cellulose and converted into bags in any of the three major styles. Moistureproof papers are used with moistureproof cellulose to give complete moistureproof qualities to the finished package. Likewise ordinary papers are used with plain transparent material where keeping qualities are not important. The width of the window may vary from a narrow strip of cellulose in the center of a bag to a wide strip spanning the entire front. It is sometimes extended to cover the front and sides providing only a narrow strip of paper which serves as the extreme back of the bag or package.

Bags of the window type lend themselves beautifully to printing. Unusual and striking effects may be obtained by using brilliantly colored papers and contrasting inks for printing. Window bags are preferred by many packers not only as a measure of economy, but because they are easily opened and filled, and because less care is required to keep them in good condition.

Printing on cellulose bags is no longer in the experimental stage. It is possible as well as practical to print on cellulose anything that one might expect to obtain on ordinary paper, in color combinations up to four colors, and with the use of process plates and inks, the possibilities are extended to compare with the full color pages of present-day magazines.

Automatic bag filling equipment has reached a new level in perfection. Filling machines are now available for every type of bag, production in bag filling equipment reaching as high as 120 bags per minute.



Color

WITHOUT INK

GLOSS

WITHOUT VARNISH

Wyomissing Flint Glazed Paper

When you print a solid background on your package-wrap or label, or add an impression of varnish to give it "gloss," you spend extra money . . . add an extra operation . . . for an effect that Wyomissing Flint Glazed Paper produces *right in the paper itself!*

The colorful beauty and smooth, glossy finish of this paper produce the eye-appeal so necessary to assure front-row position for your package. Durable paper, too, with the ability to withstand exposure to store display . . . including sunlight.

All colors available—many fast-to-light. All non-curling and *printable. Quick service, even on special orders. Physical and chemical laboratory conducting continuous research in colors, printing and packaging freely available for the solution of your problems.

Simplify your packaging—use Wyomissing Non-curling Flint Glazed Paper and secure *color* without ink, *gloss* without varnish.

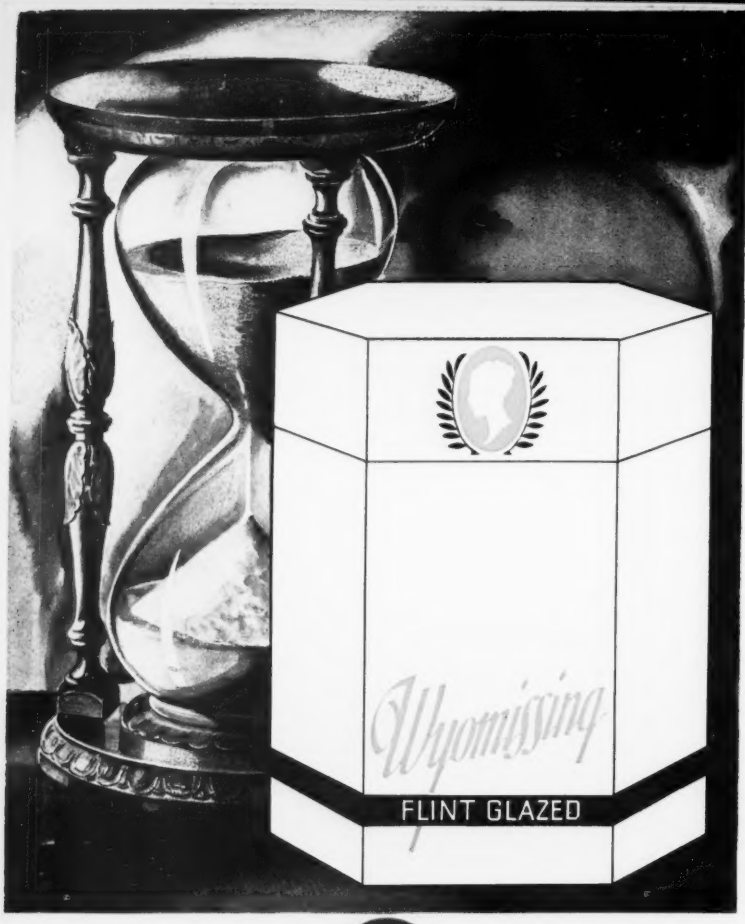
*Printability demonstrated in a newly published brochure—"THE PRINTABLE PAPER THAT PUTS A SHINE ON ANY PACKAGE." Send for a copy—also for sample sheets of any color desired.

WYOMISSING GLAZED PAPER COMPANY

INCORPORATED

Reading, Pennsylvania

NEW YORK SALES OFFICE
1775 BROADWAY . . . *Telephone* . . . CIRCLE 7-6586



Lengthen the LIFE LINE *of your* PACKAGE

Wyomissing New FAST-TO-LIGHT COLORS

Many of the fugitive colors once regarded as impractical for packaging are now available in Wyomissing's new line of Fast-to-Light Colors.

Thanks to science, our laboratory has the facilities for detecting quickly all fugitive colors. The tests made by our specialists in advance of production result in the development of many colors that stand exposure to the sun. Many of these Wyomissing Fast-to-Light Colors are pastel tints and shades of rare beauty.

NOVEL SAMPLE BOOK AT YOUR REQUEST

Every buyer of wraps and labels . . . every wide-awake printer . . . every designer with the urge to create a package strikingly different, will want a copy of our new presentation book containing samples of 37 new Fast-to-Light Colors. A copy is yours for the asking. Use the business reply card attached.

LABORATORY SERVICE OFFER

If you have a paper that you desire to have tested for color-fastness, our laboratory service is freely at your disposal. Or, if you wish a special fast-to-light color built to your requirements, we shall be pleased to meet your ideas.

For many years, leading users of Glazed and Fancy Papers have been regular buyers of our product. We are pleasing them. We can please you.

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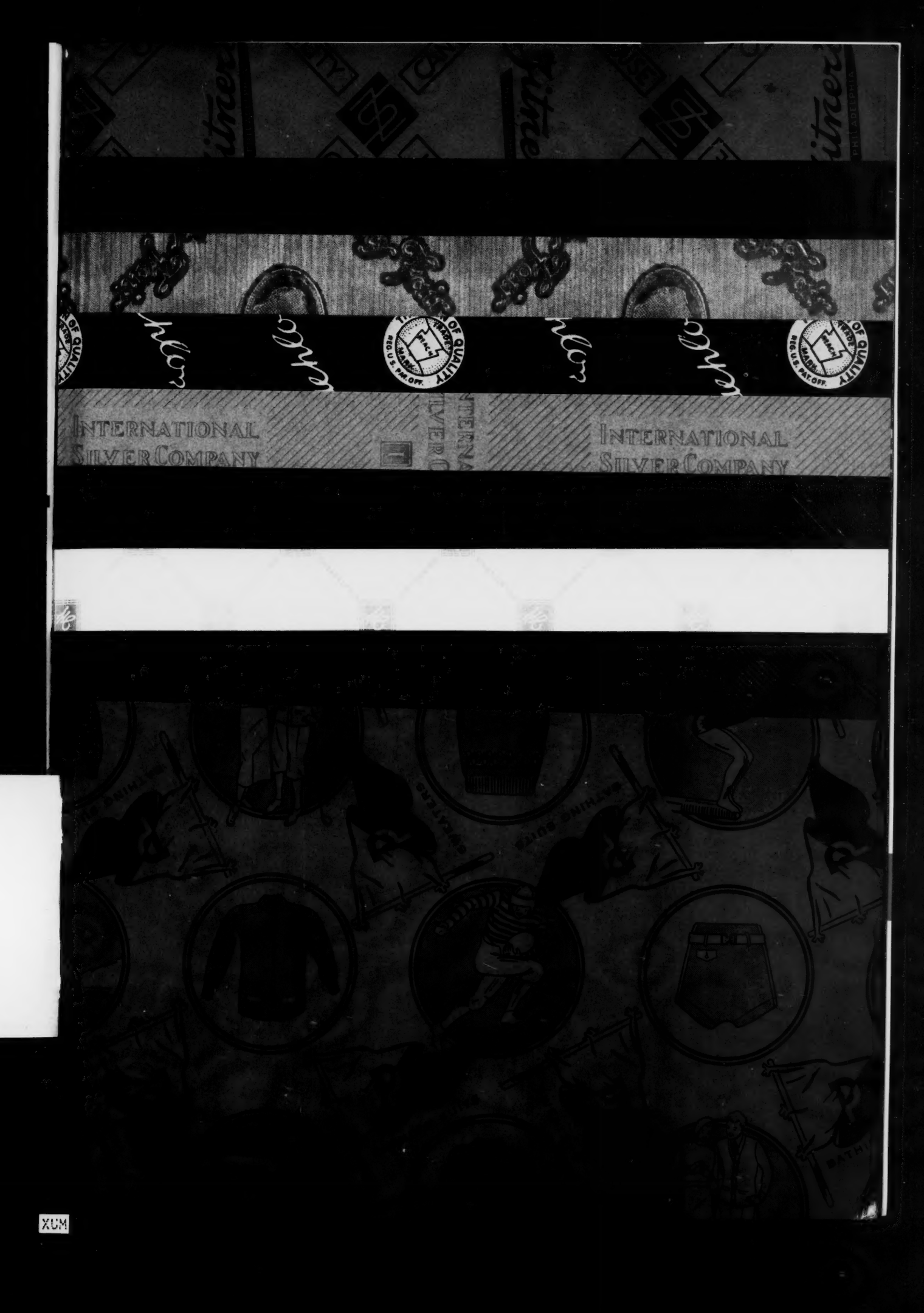
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THE HOUSE OF QUALITY
Announces....

. . . . . the opening of
a plant at Stamford,
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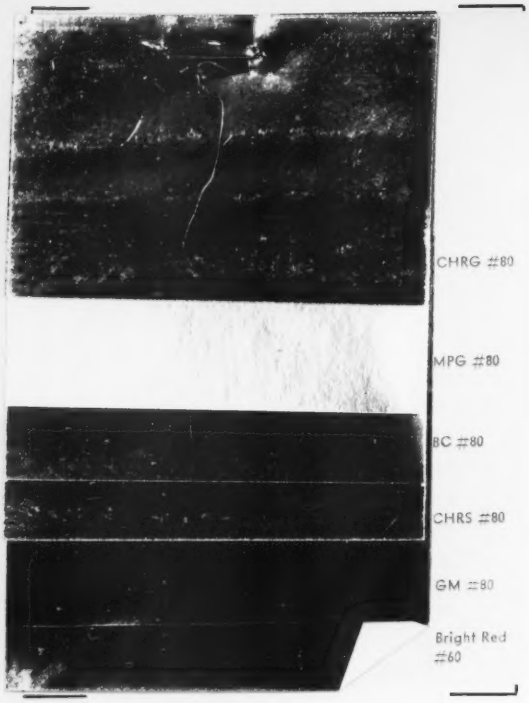
of
STAINLESS METAL FOILS



PROTECTION AND EYE APPEAL PLUS

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PERMANENT BRILLIANCY . . .

. . . ARE ALL THE QUALITIES WHICH WILL BE INCORPORATED IN YOUR PRODUCT WHEN PACKED IN STAINLESS METAL FOILS.

THE PRACTICAL AND ECONOMICAL GENUINE METAL LEAF COVER MADE OF ONLY THE BEST QUALITY METAL OF UNIFORM THICKNESS.

STAINLESS METAL FOILS Are also the proper *insulating* materials as they have the power to reflect 95% of all radiated heat.

A large list of perishable and semi-perishable products can today be protected and saved. *Stainless Metal Foils* are the ideal protection for:

PERISHABLE

Butter
Candy in its various forms
Chocolate
Chewing Gum
Tea
Cake
Cheese
Yeast
Ice Cream
Cut Tobacco
Cigarettes
Soap
Milk (Bottle Caps)
Photo Films

SEMI-PERISHABLE

Box Covers
Box Liners
Cartons
Bottle Cap Liners
Typewriter Ribbons
Bottle Necks
Labels
Vanity Boxes
Gift Wrappers
Window Displays
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OUR PLAIN STAINLESS METAL FOIL CATALOG IS AT YOUR DISPOSAL

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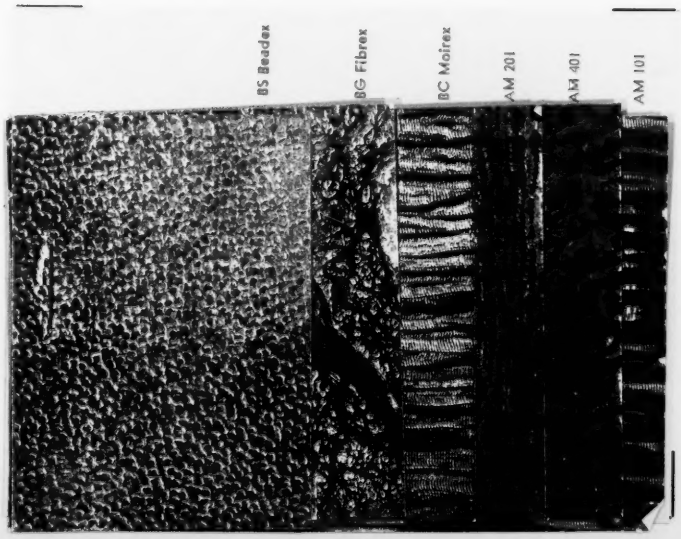
STAINLESS METAL FOIL in its various finishes, PLAIN AND EMBOSSED IN SILVER, GOLD, COPPER, GUNMETAL AND ANTIQUE will hold and attract the eye.

They are the most effective sales medium your product can possess in dressing up your cartons, boxes and all types of packages. The advantages of product protection, durability and display value are combined in these finishes.

Although our Stamford plant is a new mill, it is backed by the knowledge, experience and craftsmanship of our long established European mill, the original manufacturers of foil backed paper.

OUR LIGHT EMBOSSING, HEAVY EMBOSSING AND ANTIQUE CATALOGS CONTAIN OUR FULL RANGE OF DESIGNS AND FINISHES.



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. . . COTTON VELOUR

On the 18th of March 1888, Mr. A. Keller-Dorian always in search of original and beautiful effects discovered that by applying crushed cotton in powder form on a paper covered with a mordant coating, a perfect imitation could be obtained of

SUEDE LEATHER

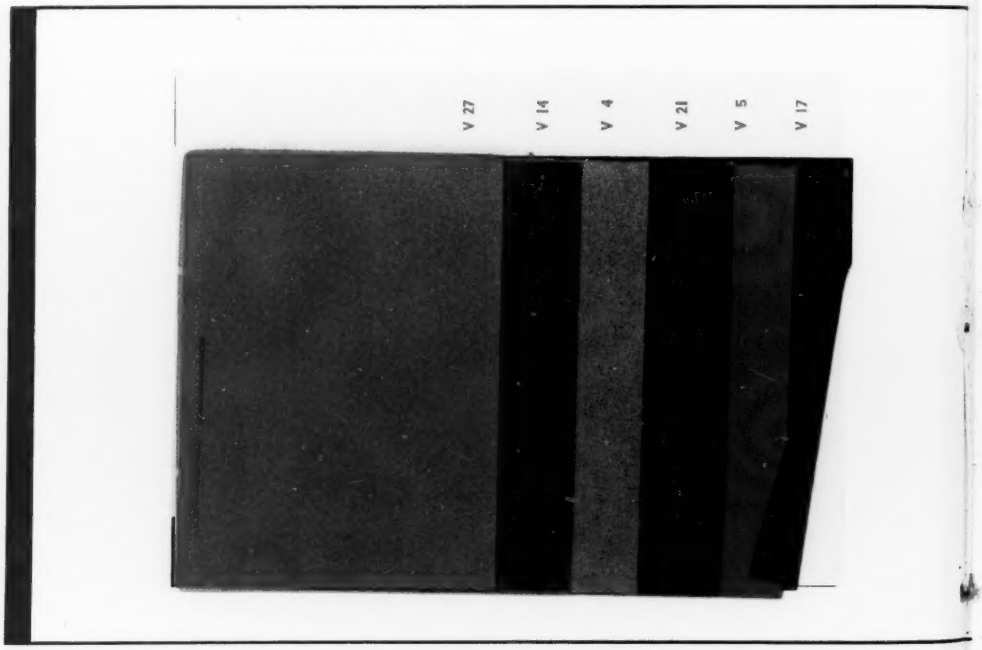
This stroke of genius started Keller-Dorian's fame and prestige. Since that memorable day which marks an important phase in the history of Fine Cover Paper Manufacturing

KELLER-DORIAN'S COTTON VELOURS

have attained far reaching renown. All select and exacting users and designers in North and South America, Europe, Asia and Africa have, during these many years acclaimed this quality as the outstanding creation in cover papers.

14th Price Reduction

This new saving in cost will permit the use of Cotton Velour in several fields where they were heretofore prohibitive due to price.



Obtainable in the twenty exquisite colors contained in our 1936 Catalog.

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SILK VELOUR

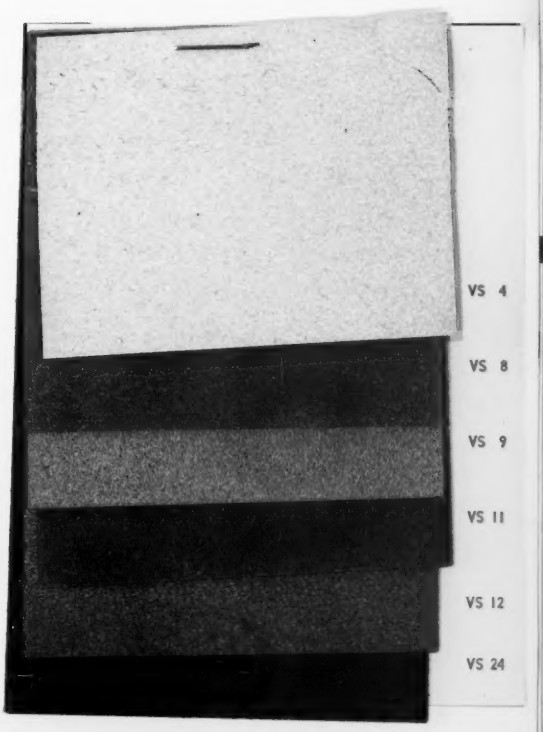
symbol of Beauty — Distinction — and Quality known the world over as the Aristocrat of all DeLuxe Cover Papers.

Comes to you in thirteen exquisite colors of appealing freshness.

The use of SILK VELOURS assures the Attention, Value and Magnificence that only this unique real silk surface of outstanding quality can provide.

Exceptional effects can be obtained by printing SILK VELOUR'S unusual surface in line or halftone.

In SILK VELOUR, Keller-Dorian have arrived at a masterly portrayal of color harmony, beauty and effectiveness.



Ask for our 1936
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10th Price Reduction
brings the cost of this quality to 50% of its original value.

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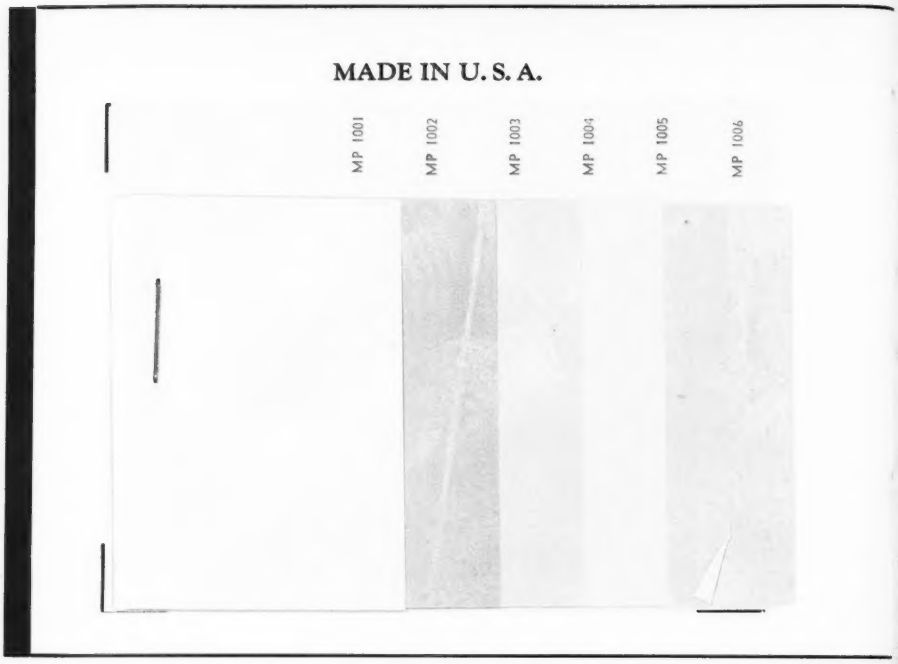

presents a new Pearl Paper—MOTHER OF PEARL—so low in cost that it permits its use in every field.

ODORLESS
NON-CURLING
PERFECT PRINTING QUALITIES
ABSOLUTE CONTROL OF CRYSTALLISATION

these combined features make Keller-Dorian's 1936 MOTHER OF PEARL ideal for:

Boxes
Greeting Cards
Candy Packages
Announcements

The faint and exquisite pastel shades of the South Sea Shells are reproduced and are available in the many colors contained in our Catalog.

Ask for our MOTHER OF PEARL Catalog

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CONTINENTAL GLOSS

comes to you in many colors and designs. The soft luxurious effects shown in our 1936 Continental Gloss Catalog will lend to your

Boxes

Cards

Catalogs

Displays

Beauty and Character

CONTINENTAL GLOSS will meet with the approval of your most exacting customers.

SMART, PRACTICAL and ECONOMICAL

Our 1936 Continental Gloss Catalog is available on request.

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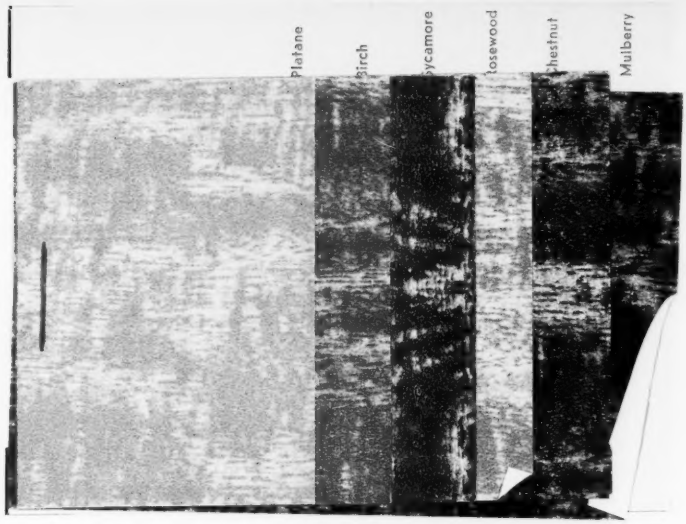

WOOD GRAIN PAPERS

KELLER-DORIAN in 1936 makes available a series of wood effects closely resembling

OAK	PLATANE	SYCAMORE
BIRCH	CHESTNUT	MULBERRY
POPLAR	ROSEWOOD	MAHOGANY

These papers possess admirable decorative, printing and working qualities so essential to the beauty and construction of boxes, greeting cards, displays and catalogs.

Their low price range and the fact that they are carried in rolls make possible their use for quantity production.

The following papers are fade proof and water fast:

Platane	*Sycamore*	*Chestnut*
Birch	*Rosewood*	*Mulberry*

ASK FOR OUR 1936 WOOD GRAIN CATALOG

KELLER-DORIAN

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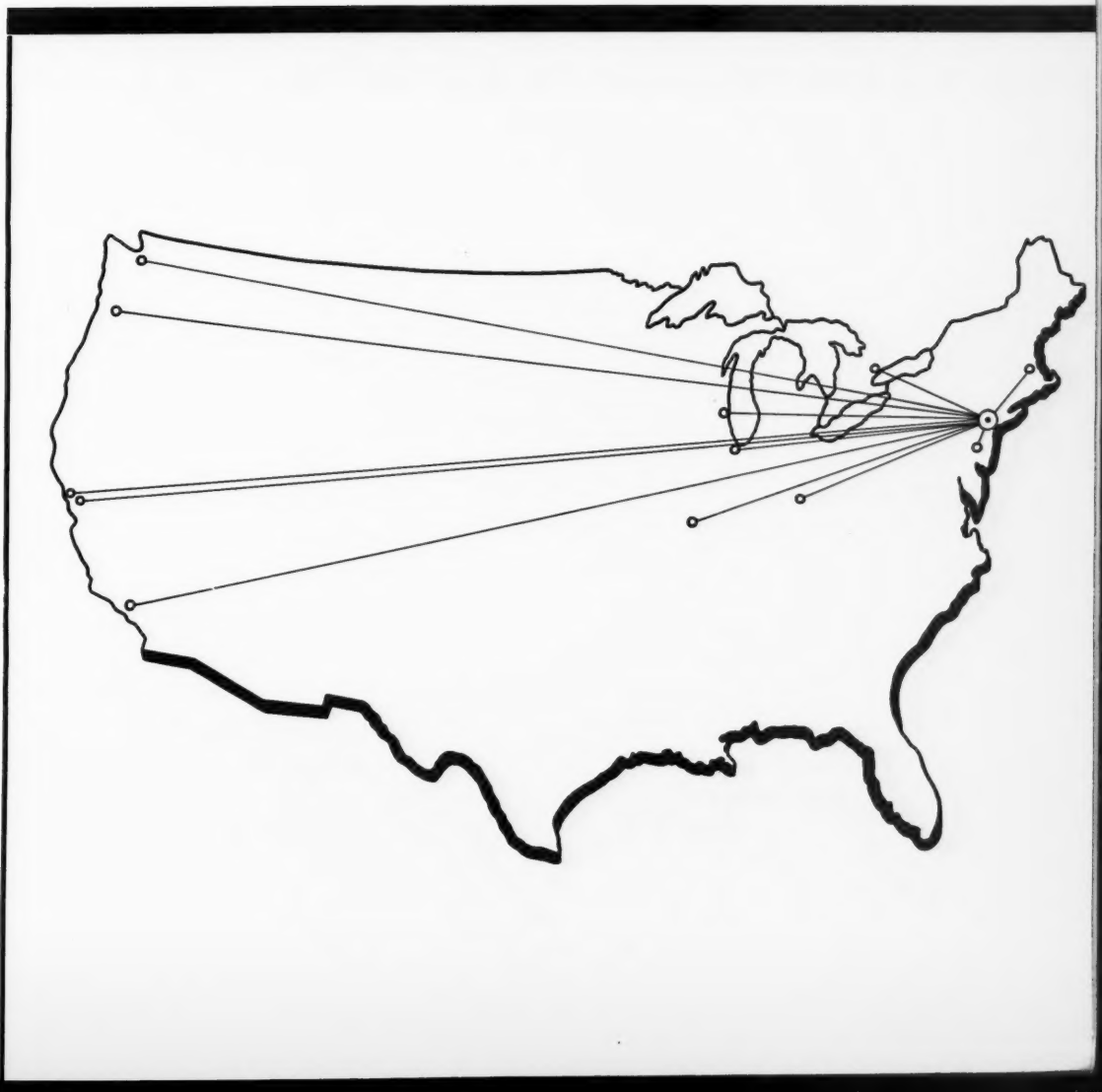

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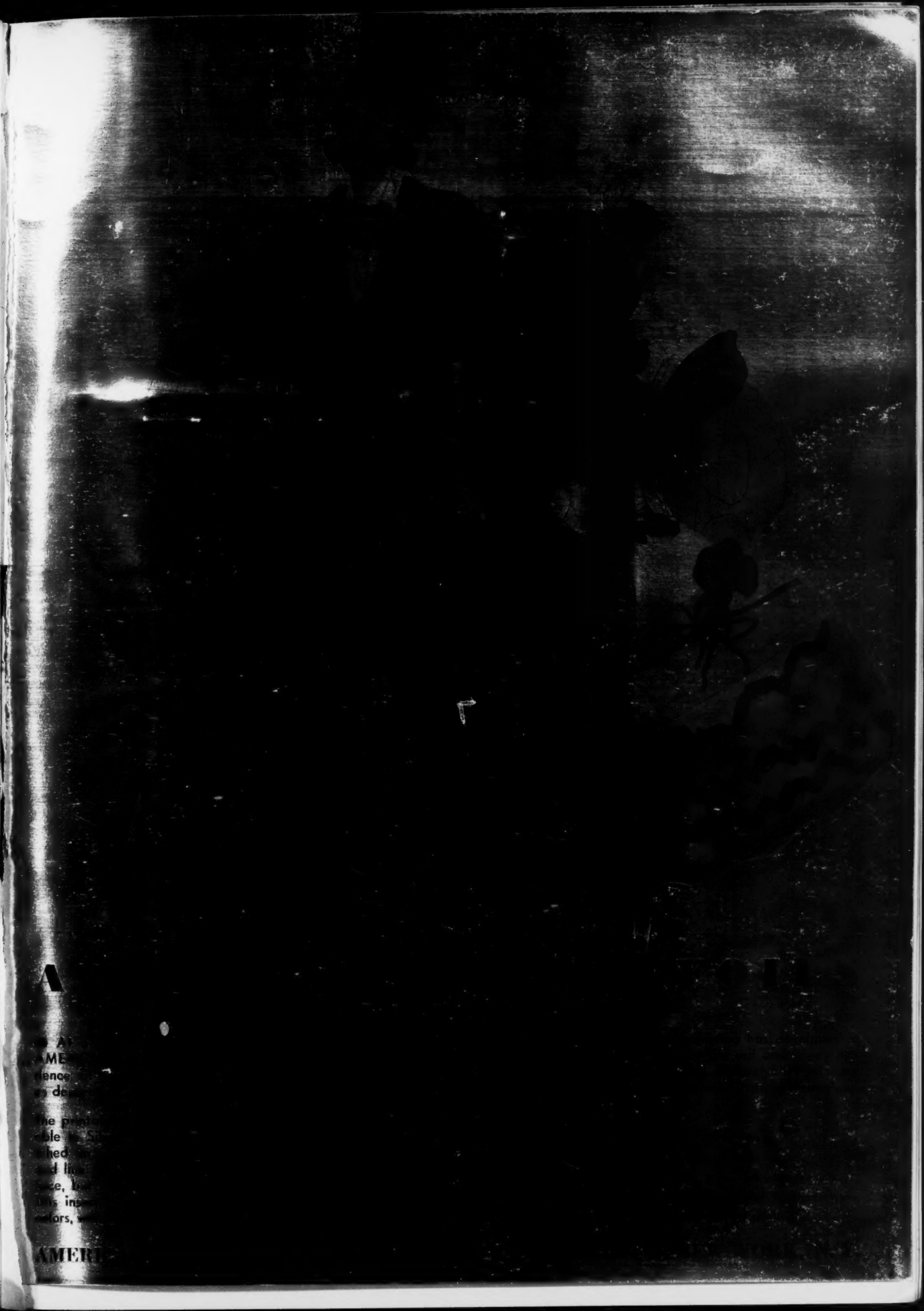

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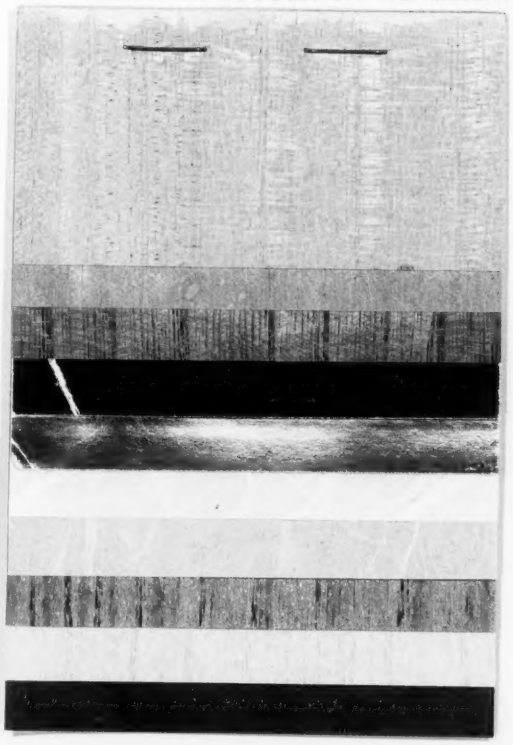
WHETHER TO CONVEY AN AIR OF REFINEMENT, DAINTINESS, DELICACY OR MORE SUBSTANTIAL QUALITIES . . . WHATEVER THE DISPLAY PURPOSE OF THE PACKAGE

THE JAPAN PAPER COMPANY PAPERS

OFFER A WEALTH OF MATERIAL THAT INSPIRES, SUGGESTS AND PRODUCES THE FINEST EFFECTS IN THE ART OF PACKAGE DESIGN.

BY THE WAY OF SUGGESTION WE PRESENT



JAPANESE (Real) WOOD VENEER
carried in 13 colors

Bright, Mat } SWISS STAINLESS METAL FOILS
Gold and Silver Plain and Embossed

No. 4002 Japanese (Various weights and colors)

MOMO Japanese

Oak, Poplar, Mahogany } FRENCH WOOD EFFECT PAPERS

From a selection of Papers from *EUROPE* and *THE ORIENT* ranging from the lightest TISSUES to heavy CARD stocks and including material for BOX-WRAPS, DISPLAYS, CARDS, LABELS, FOLDERS, CATALOGS and similar forms of SALES AIDS.

Carried in Stock by

JAPAN PAPER COMPANY

Established 1901

109 East 31st Street

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Further Samples and Prices on Request—Full Size Sheets Furnished for Dummy Purposes

Cellulose And Cellulose Derivatives

The first type of transparent cellulose sheeting which met with ready acceptance as a general wrapping was composed of viscose or regenerated cellulose. [1], [2]. This material is completely transparent and colorless, is slightly hygroscopic, neither water nor moistureproof, non-inflammable (but burns), grease- and oil-proof, and is the lowest priced completely transparent sheeting obtainable on today's market. It is affected to a degree by differences in atmospheric conditions, more particularly humidity changes. It can be obtained in colors and embossed designs. The non-moisture-proof form is not used as a food wrapping in direct contact with food products possessing a high moisture content. Its most extensive application is that of an outer wrapping for nearly every type of commodity of such size as can be readily enclosed within its standard size of sheet dimensions, and the price and profit margin of the article permitting its use. Its relatively low price, together with its ease of sealing and workability in automatic equipment, has extended its use to almost limitless fields.

A relatively new type of sheeting which has recently found its place on the American market as a general wrapping is that which is composed of cellulose acetate. [3], [4], [5]. This material is inherently water-proof, and oil- and grease-proof. It possesses an unusually high degree of clarity, brilliancy and surface sheen. It is practically unaffected by atmospheric conditions and humidity changes. It is not attacked by insects nor mold, can be obtained in colors, is readily printed upon and embossed, as well as quickly cemented. Its properties can be so varied that the same material can be made into sheeting which has striking rigidity, or can be prepared so that it possesses the flexibility of rubber sheeting. In addition, these conditions can be closely maintained through wide humidity and temperature changes. Its moisture transmission values can be controlled within definite limits, so that it may be readily applied to almost any type of wrapping, including direct contact with food products which it encloses. As it is not affected by humidity changes, it is effectively used as a covering for the windows of envelopes and window cartons and display containers.

In order to overcome some of the shortcomings of the viscose or regenerated cellulose sheeting, more particularly to render it moisture-proof, this type of cellulose sheeting is coated with a thin film formed from a nitrocellulose lacquer containing resins, plasticizers and waxes. [6], [7]. The resulting sheet is essentially moisture-oil- and grease-proof, of greater strength and increased inflammability. While it is not completely water-proof, it is highly resistant to the transmission or penetration of moisture. This treatment reduces its sensitiveness to humidity changes and increases its resistance to the attack of insects and the growth of mold.

Because of the moisture resistance offered by this coating, this type of sheeting is invariably used where the wrapping must come into direct contact with the food products, and especially when it is desired that the original moisture content in that food or similar commodity be retained for a fairly long time. This applies particularly to such materials as confections, baked foods and tobacco products, whose moisture content must not be lost; while crackers and related materials must not take up moisture. Even though this type of sheeting costs nearly fifty per cent more than the uncoated sheet, the volume used of this coated sheeting is about three times that of the uncoated sheet. Obviously, its resistance to moisture, as well as its ability to maintain the moisture content of wrapped materials in almost the same state as when they left the manufacturer, appears to more than offset any increased cost that may be incurred.

All of the above types of sheeting are practically odorless and tasteless, and can be formed into an almost gas-tight enclosure. One of these [7] types possesses sufficient thermoplastic properties to make a satisfactory "heat seal" to bond sheet to sheet by the application of a moderate amount of heat and pressure. This property enables these types of sheetings to form a package which will retain nearly all of the original odor and flavor of the contained materials.

A new development in transparent sheeting [7] has recently appeared on this market which possesses the property of filtering out the ultra violet rays or active elements of daylight. These rays are largely responsible for the spoilage of many forms of food products and cosmetics, which prematurely become rancid or lose their odor, flavor or color when exposed to natural light. This form of sheeting is clear and transparent and is obtainable in the standard form of viscose sheeting, as well as the coated or moisture-proof product. Where a greater degree of opacity of these detrimental light rays is desired, this type of sheeting is available in an amber shade, and will preserve such wrapped products for a longer period than the above described colorless sheeting.

Resin-Treated Papers

Papers have not yet been prepared in modified or treated form which have resulted in a sheet that could be considered completely transparent, that is a transparency comparable with that of water or glass, or which when held up to the light would not diffuse the light source. As a result, these types of papers appear in varying degrees of translucency. Properties and uses of the various types of wet and dry waxed paper, glassines, waxed glassines, vegetable parchments and the like are of course already well known to the packaging industry. There are, however, types of resin-

---

[1]Cellophane; Du Pont Cellophane Company, New York
[2]Sylphrap; Sylvania Industrial Corporation, New York
[3]Inceloid: American Products Manufacturing Company, New Orleans, La.
[4]Protectoid; Celluloid Corporation, Newark, N. J.
[5]Kodapak; Eastman Kodak Company, Rochester, N. Y.
[6]Moisture-proof Cellophane; Du Pont Cellophane Company, New York, N. Y.
[7]Moisture-proof Sylphrap; Sylvania Industrial Corporation, New York, N. Y.

WOULD YOU BELIEVE—

THAT this insert is not printed?

THAT you may have a trade-mark or special design of your own made in either a box covering or a wrapping paper quality without charges for special engraved equipment?

THAT you may save a great deal of money and also improve the appearance of your boxes by using a box covering paper made by our design process?

THAT almost any combination of colors - one color of design on another color of paper - can be produced by this new design-process at surprisingly low prices?

This BOSTICH sample insert started out as ordinary wood pulp and emerged from the other end of the paper machine just as you see it here - all in one operation!

The savings effected by this process will interest particularly the volume user of boxes whose products must be well packaged - at a price.

To those who prefer not to use a design of their own, we offer a selection of stock designs available for immediate shipment in any quantity.

Your inquiries will receive our prompt attention.

Harry M. Cranmer Co., Inc.

211 Congress Street
Boston, Mass.

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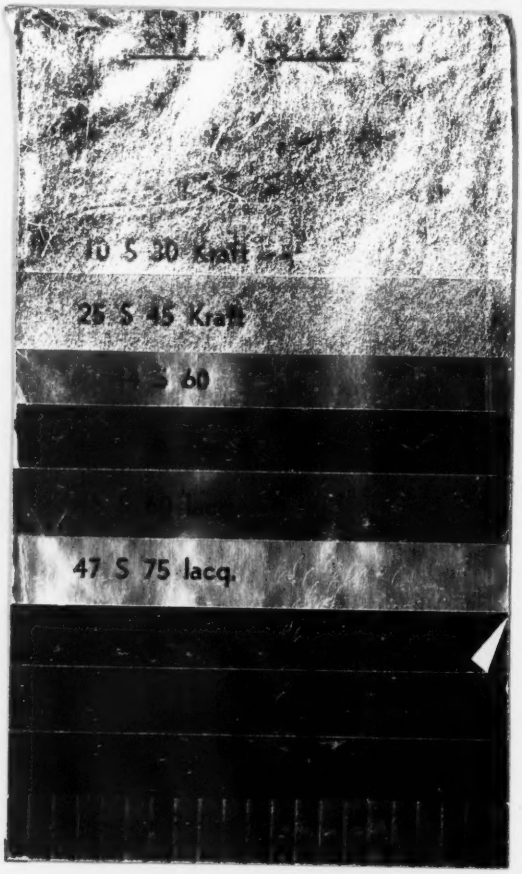
Just a few samples from our Line



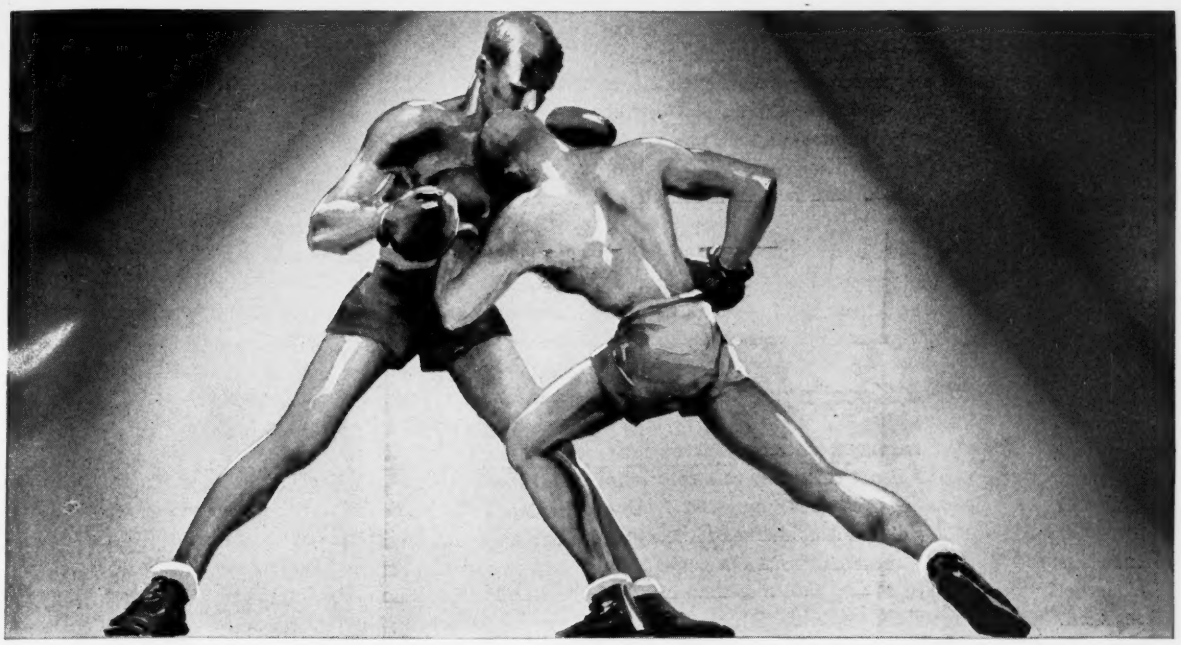
ALL-STAR DECORATIVE PAPERS

Getting startling all-star results in fine papers depends primarily upon your source of supply. For years we have been offering new and brilliant effects in foils, embossed and printed finishes. Our long experience is your assurance of quality. Our large stock and great variety gives you service and wide range of choice. Write for the full sample line.

KARL PAULI CORP.

454 BROOME STREET

NEW YORK, N. Y.



Thank God for Competition!

KVP

Repeal was going to ruin the soft drink business, but its first four months found sales of pop and flavored drinks up 14%, mineral and table waters up 15%, and fruit juices skyrocketed to 55%. Even better now, they say.

Dime stores aren't happy until a competitor moves in next door. Drug stores flock to adjacent corners as if their lives depended on it . . . . and they often do!

We didn't get to first base with some of our papers until competitors began to imitate them. Now they're our biggest lines. Right now we have two new ones that need only some competition to make them go places.

Afraid of competition? Not on your life! It makes us make better papers. It compels us to give better service. It is good for our customers and it is good for us.

Thank God, say we, for competition!

KALAMAZOO VEGETABLE PARCHMENT CO.
PARCHMENT [KALAMAZOO COUNTY] MICHIGAN

FOOD PROTECTION PAPERS

XUM

treated papers [8], [9], which have an unusually high degree of translucency approaching transparency. They have good moisture transmission resistance, and are practically oil- and grease-proof for the limited period of time for which they are used as a food wrapping. Like all treated papers, as well as all the other sheeting mentioned in this article, these last-named products are air-tight and dust-tight. They are immune from insects and mold growths. Their inflammability is slightly greater than that of the untreated paper. The cost of this form is intermediate between that of a good grade of waxed glassine and regular viscose sheeting.

Rubber Derivative Sheetings

An innovation in transparent sheeting has recently made its appearance. It is not composed of a cellulosic material, but is made from a rubber derivative. One form is composed of rubber chloride[10] and the other rubber hydrochloride.[11] These new forms of completely transparent sheeting are highly moisture transmission resistant. They are slightly plastic, but not elastic. Their characteristic difference from the cellulosic type of transparent sheeting is, that while their initial resistance to tear is less than the cellulosic type, they offer substantially greater resistance to a tear once started. Another variety of sheeting is an exceedingly plastic film[12] composed of rubber and wax which can be permanently stretched to several times its original dimensions. While this film is translucent, it has several properties in common with the above types. All of these forms can be hot sealed.

Modern trends have been decidedly in the direction of the completely transparent wrapping, and of these there is a preponderance of favor toward the moisture-proofed types, notwithstanding their substantial increase in cost. These situations indicate clearly that the desideratum is to make the wrapped object completely visible as well as to reach the consumer in practically the same condition as when it left the manufacturer. Such conditions demand a form of sheeting, which shall itself be invisible and at the same time possess a high order of protective value. It must include such properties as water- oil- and grease-proofness, and dust- and air- proofness, a high resistance to moisture transmission, good tensile strength and flexure value, together with a retention of these properties over a substantial period of time. It must be available in colors, capable of being readily printed upon and embossed, easily and quickly cemented, as well as being readily adapted for packaging machine operation.

While the moisture-proof viscose sheetings have, in general, most of these desirable properties, they have, however, many shortcomings. They are a laminated composite sheet, the surface coating which renders them moisture-proof having a thickness of only one ten thousandth inch. While moisture transmission resistant, these sheetings are not completely waterproof. On immersion, or sufficiently long contact with water, the thin protective coating will become detached.

Probably the ultimate line of development will consist of a homogeneous sheet made from a base of cellulose acetate, or some similar derivative of cellulose, properly modified or treated to render it moisture transmission resistant. Cellulose acetate and related derivatives such as the cellulose ethers are inherently waterproof. When their resistance to moisture transmission is improved (as the resulting sheet is homogeneous throughout), and not subject to humidity changes, there will be no formation of wrinkles, cloudiness, etc. This formation is particularly noticeable where both the coated and uncoated viscose sheetings are used as window coverings for cartons, envelopes and the like. The cellulose derivative type of sheeting, in addition to possessing a high degree of transparency, is very slow burning. Stability and longevity, freedom from discoloration, and resistance to the disintegrating effects of the elements are properties of substantial worth possessed by the type. The cost must be low, in order that it may be used to wrap even the lowest priced articles. However, this usually results when a large market prevails.

Relief effects are now obtained by embossing and printing which in many cases have eliminated at least one wrapping and resulted in a package of more attractive design and greater utility. Owing to the complete transparency of this sheeting, only the printing is visible and appears to be a part of the object wrapped.

Gummed transparent sheeting is now available, both clear and in colors. It can also be supplied printed upon and embossed. Printed and cut-to-shape seals and closures are now fabricated which effectively serve the purpose of sealing and labeling or marking such packages. It also designates the strategic point at which the wrapping might be most readily opened. The clear and colored transparent gummed tape is used in many manually wrapped packages as a time saver and results in a more striking wrapping. The clear transparent gummed tape is by far the best product for making an invisible repair on torn paper or fabric.

As transparent sheeting possesses unusual strength for its thickness, the sealing of packages so wrapped and sealed can be opened only with difficulty. To overcome this situation some manufacturers leave a part of one flap turned up at the closure. Others enclose a small strip or narrow ribbon of a thicker variety of the sheeting in another color which projects out at the joint in the wrapping.

As binding tape, transparent cellulose sheeting finds use when folded into a tube with lapped joint and then pressed flat. It may be obtained clear or in colors as well as with an inserted core of other materials such as metallic foils and paper or fabric that may contain printed matter.

---

[8] S. W. Weis, 182 No. La Salle St., Chicago, Ill.
[9] Transpara; Transpara Paper Company, Rhinelander, Wis.
[10] Pliofilm; Goodyear Tire & Rubber Company, Akron, Ohio.
[11] Marbofilm; Marbo Products Corporation, 469 E. Ohio St., Chicago, Ill.
[12] Parafilm; Marathon Paper Mills, Rothschild, Wis.

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by NASHUA

Floralite

by NASHUA

A new floral design—rich in appearance with effective sheen.
Made in standard colors and obtainable also in box weight.
Box coverings of every description in the Nashua line of 4000
—designed to get maximum attention for the products.
Full size work sheets furnished on request.

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NASHUA, NEW HAMPSHIRE

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Inherently human, the instinct of possession is aroused by the persuasive intrusion of beauty in packaging. Direct this instinct to the point of profitable decisions for your product through the artistry of Shellmar Multi-Color "Cellophane" Wrappings.

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CHICAGO NEW YORK SAN FRANCISCO

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No. 450 "CELLOPHANE" SUPPLIED BY THE DU PONT CELLOPHANE COMPANY, INC.

XUM

PRINTING TRANSPARENT CELLULOSE SHEETS AND ROLLS

BY B. W. MARTIN

AT AN EARLY STAGE in the development of transparent sheeting, it became evident that its field of usefulness would be greatly enlarged if it could be printed. Without printing, many manufacturers, especially in the food industries, experienced difficulty in finding adequate means of identifying their products when transparent wrappers were used. However, the non-porous surface of the material, as well as its temperamental nature, presented many problems to the converter, and much patient research was necessary in the endeavor to find their solution.

Intensive effort was applied, and progress in this direction was achieved as the result of several interesting inventions. Transparent wrappers in sheet form, printed in from one to five colors including gold and silver, have been available for some time past, and have found extensive application in many fields. In the candy industry they are being used for wrapping bars and boxes, as well as assemblies of individual pieces in cardboard boats. Meat packers have employed printed transparent sheets on a long list of products, including sliced bacon, pork sausage, smoked pork butts, regular and picnic hams, meat loaves, sliced dried beef, dry sausage, bacon squares, scrapple, chili con carne and various sausage specialties. Shirt and underwear manufacturers have found that attractive printed designs added identity and beauty to visibility and product protection, while the same attributes have brought many brands of noodles and macaroni to market in convenient, transparent packages. Butter, hosiery, small items in the textile line, rubber goods, pies, cakes and cookies are other hand-wrapped products on which printing has made the use of transparent sheeting practical and efficient for wrapping purposes.

A particularly interesting development in the art of printing on transparent sheeting has been the comparatively recent perfection of gravure printing, providing a means of securing great opacity in the printed area. This branch of the art has been especially valuable to manufacturers of sticky or moist foods, where the action of the juices in the product impaired the appearance of printing applied by the letterpress method. Because the gravure process made possible effects that could not be obtained by ordinary printing methods, a number of new applications of transparent sheeting came about through its introduction. Dried fruits, particularly, benefited; these are being packaged in printed transparent sheeting which is being used in a constantly growing volume.

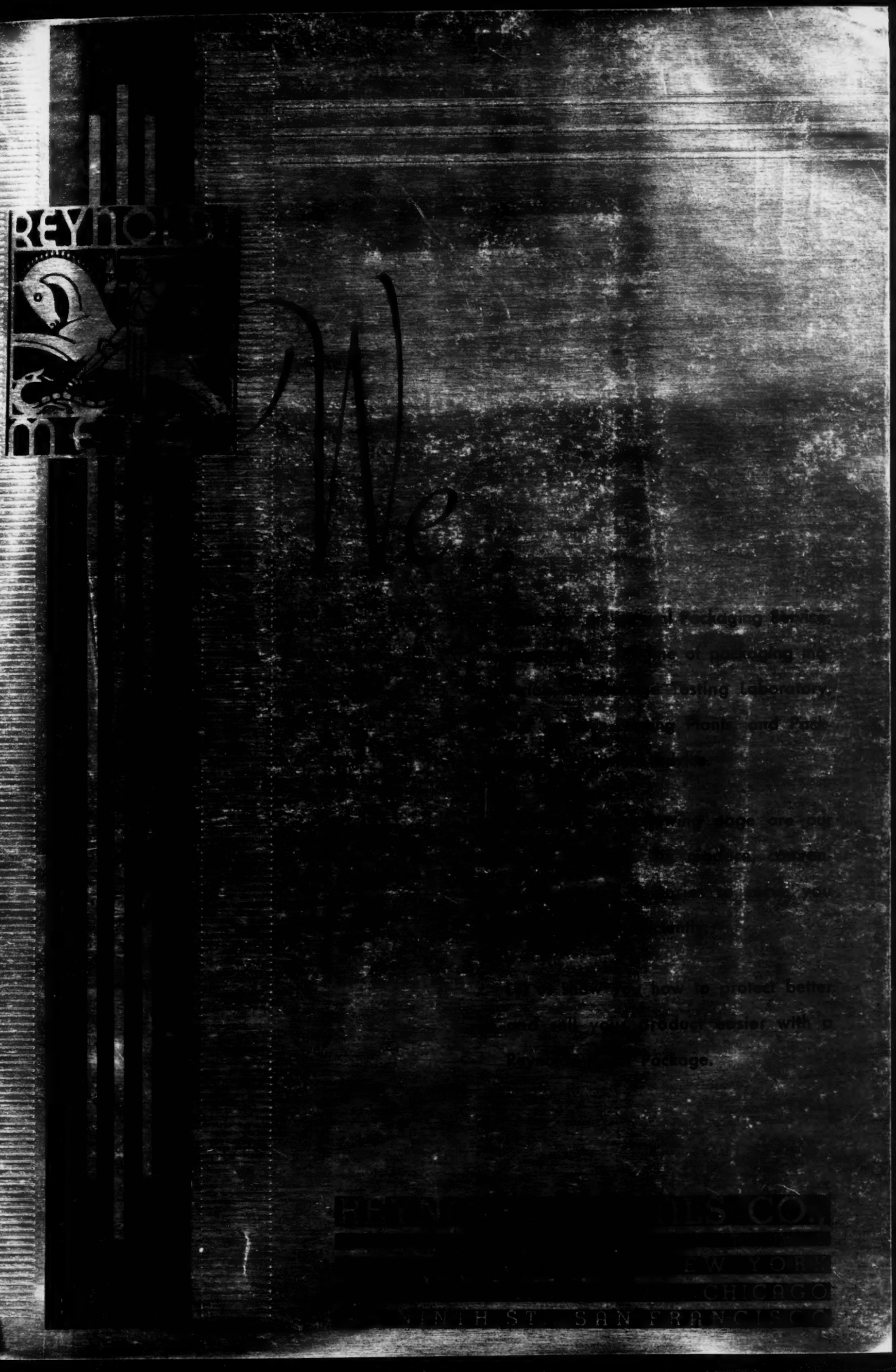
Another valuable contribution to visible packaging came with the development of a method of applying a tinting to the transparent sheeting. Tinting is now available in a wide range of colors. This tinting can be applied either to the entire area of the sheet, or to a limited, definitely located area, as desired. Manufacturers of chocolate, or chocolate-coated candies, as well as those whose product requires the use of a colored wrapper, have found this development a genuine boon.

Further impetus was given the use of transparent sheeting by the subsequent perfection of methods whereby the printed stock is not sheeted, but is delivered in rolls to the user, and run through specially adapted packaging machines. Products packaged on automatic machinery, requiring the use of continuous roll wrappers, may now employ transparent sheeting printed in from one to six colors. Variety, or special breads, cigars, patent medicines in cartons, toilet soap and certain types of candy bars are examples of such products. Perfect design registration on the package has been secured through the use of photo-electric cells.

Opaque printing, as done by the gravure process, on continuous web rolls, is finding favor in the cigar industry. Reproductions of cigar bands as well as "continuous" or "all-over" designs are being used to a considerable extent. Certain forms of chewing gum, packaged in transparent sheeting on automatic machinery, are also employing printed roll stock for wrapping.

The advantages of transparent sheeting printed by perfected multi-color methods created a further demand for its application to a variety of package forms, to accommodate products where sheets, rolls or the usual types of bags would not answer. As a result, a number of interesting package ideas are now available in which printed sheets or rolls of transparent material are combined with cardboard backs. Some of these come in the form of bags, easily filled, closed and opened, yet possessing the rigidity necessary for the packaging of loose or fragile products or textile items which do not lend themselves to packaging in transparent sheet only. Lingerie, candy bars, nut meats, candy which comes in small pieces, noodles and macaroni, glacé fruits, powder puffs and hosiery are products successfully employing this type of package.

The use of transparent sheeting in the form of bands or wrappers, printed with appropriate designs, has permitted the transformation of standard packages of many products into special holiday numbers. Such transformations are accomplished at a minimum of expense, and with the further advantage that the merchandise can be reconverted into standard packages after the holiday season by simply removing the special bands or wrappers. Colorful and striking designs are available for such holidays as Christmas, Easter, Mother's Day, Valentine Day, Father's Day, Fourth of July, Hallowe'en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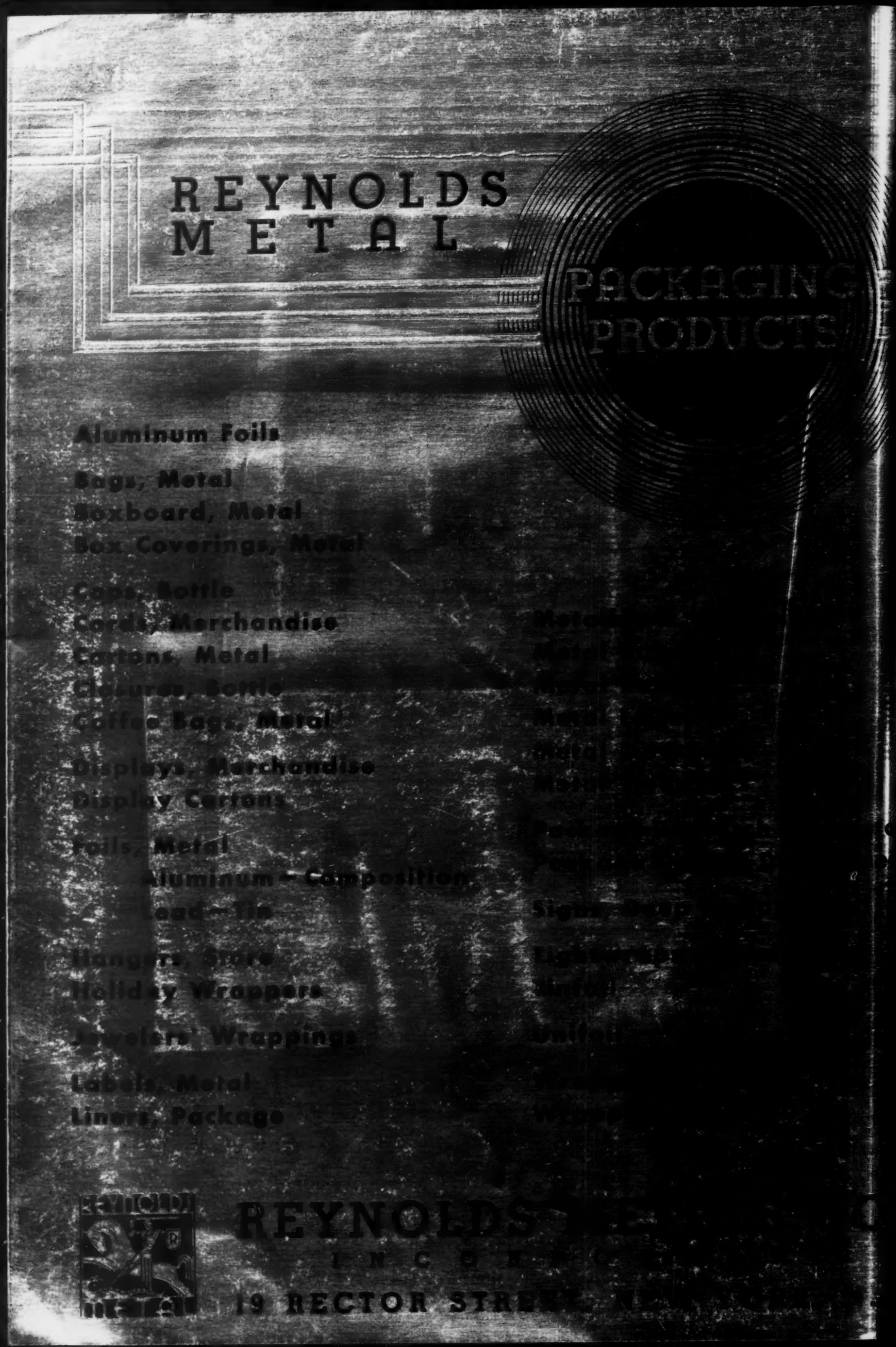
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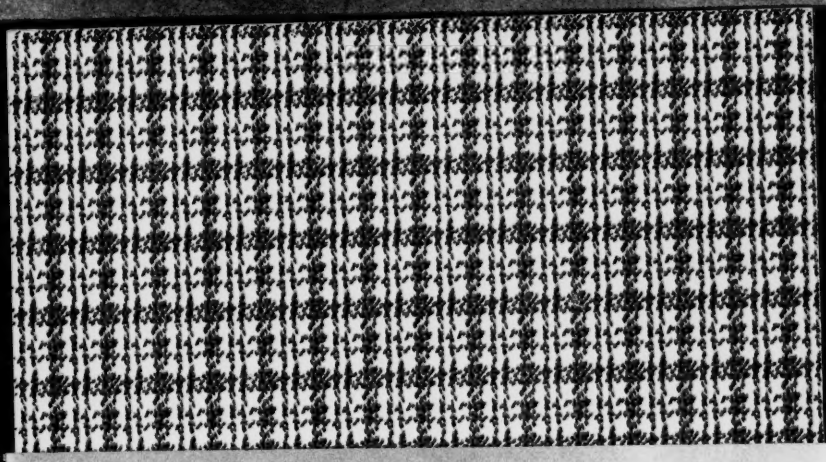

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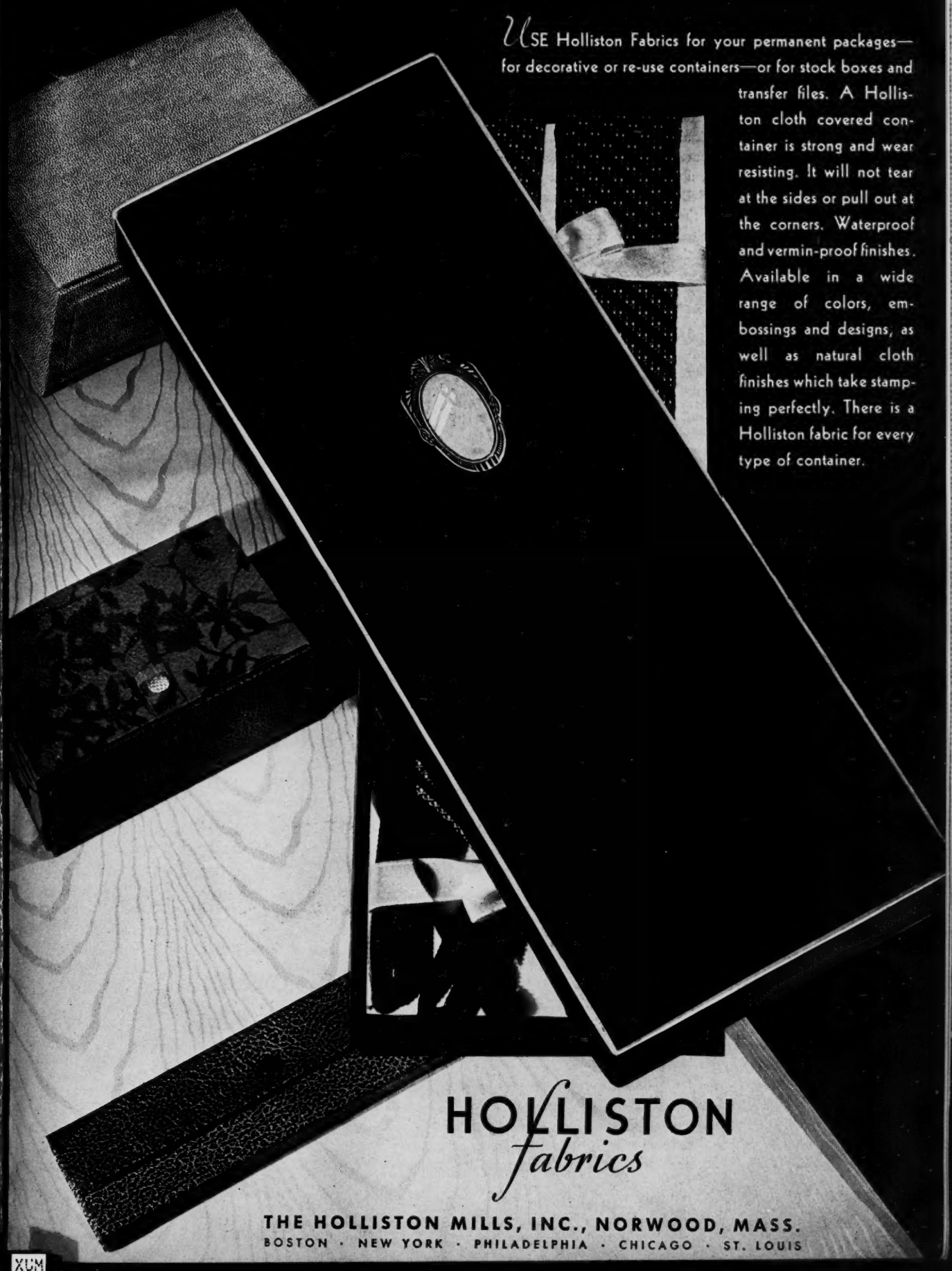

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and Thanksgiving. Notable achievements have also been made in the production of Christmas and other holiday wrappings for gifts, printed in many colors on colored transparent sheeting. Matching designs are available ribbons of the same material.

Of especial interest to manufacturers contemplating the redesigning of package lines is the great improvement in design technique as used in connection with the decoration of transparent sheeting. Designs initially created were simple, usually employed few colors and avoided halftone and Benday effects. Present production facilities permit the artist a wide choice of effects, and an almost unlimited range of color schemes. Outstanding examples of the possibilities in this direction are the redesigning of several complete lines of packaged candies, to carry a "family" motif through the entire line. With a choice of letterpress or gravure printing in as many as six colors, with tinted or clear stock, and sheets, rolls, bags or specialized package forms to select from, artists and package designers are finding in printed, transparent sheeting a modern, highly adaptable packaging material that provides new scope for their genius. In addition to the elements of novelty and beauty, printing provides the means of perfect product identification, supplementing and often enhancing the inherent qualities of the transparent sheeting itself and without minimizing its transparency and protective qualities.

TYPES AND APPLICATIONS OF WAXED PAPER

BY EDGAR A. CLARK

IN THE EARLY STAGES of the manufacture of waxed paper a quantity of unsized or slightly sized paper was placed in a pile and a little wax shavings laid on the topmost sheet. With a hot iron the wax was melted which penetrated the top and second sheets. Then again wax was liquefied in a pan and sheets of paper drawn through it. When larger quantities were in demand, paper in roll form was run through an iron trough containing melted wax, kept in liquid form by gas or oil burners. Mounted in the tank was a glass roll, under which the paper ran; as the paper emerged from the tank, it was run over a steel scraper, then through two squeeze rolls to remove all surplus wax. Then the paper was allowed to loosely fold on itself a short distance away and after several hours was ready to cut into sheets or wind into a roll.

From the very simple beginning described, waxed paper has developed into a complicated product so that the character of the base papers and the kind of wax used are selected very carefully and scientifically to meet the exact requirements of the product to be packaged. When automatic machines for wrapping were first introduced, papers had to be made to meet the machine requirement, for instance the first kiss wrapping machine found no paper with sufficient twisting strength in a reasonable weight that wrapped without a very big waste through torn wrappers. As other machines for wrapping various products were invented, intensive laboratory work developed papers to fully meet the requirement.

In addition to paper requirements there was the proper wax content to consider and the best method of application to meet the many different needs. The reason for the extraordinary growth of waxed paper is not hard to find. Its appearance is attractive, excellent color, high gloss, waterproof and resistant to water vapor to a high degree.

In common use we speak of waxed paper in three classes, although there are many sub-divisions of the three classes. For practical consideration these may be classified as follows:

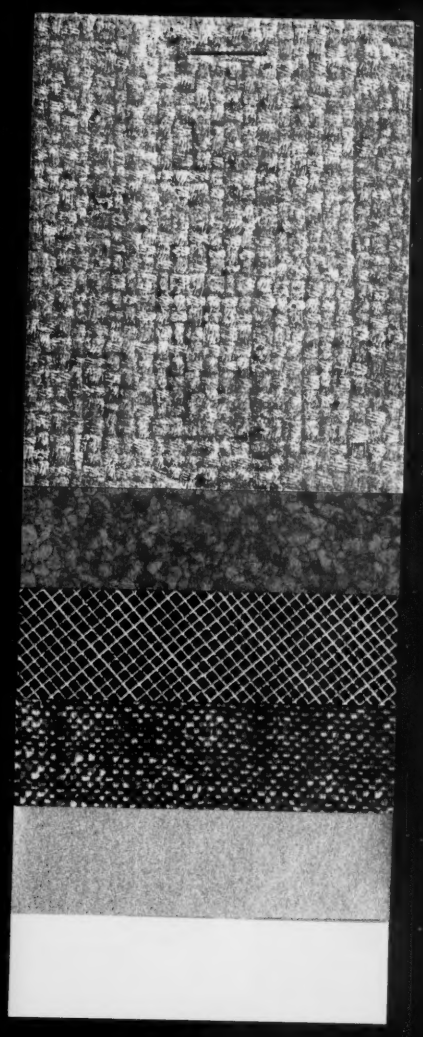
Dry Waxed Sulphite: Impregnated with paraffine of a relatively low melting point. Carries little or no surface wax and is dry to the touch. Not entirely proof against water, vapor and air. Such a wrapper is a protection against contamination by handling or contact and, to a moderate degree, against changes in moisture content. Is not self-sealing on application of heat. Its use is indicated in many special instances.

Semi Dry Waxed: Here the wax is driven into the fibres of the sheet and there is also a slight surface coating. Often used in delicatessen, meat and grocery shops and in industries not related to foods.

Waxed Sulphite: A heavier coating of paraffine with correspondingly greater resistance to the passage of air and of water vapor. It is self-sealing on application of heat. Used as a wrapper for many products, but especially useful as a liner or divider in package goods.

Waxed Glassine: Is lightly and also heavily coated with paraffine, usually of high melting point and like waxed sulphite is odor-proof, insect-proof, etc. Waxed glassine is also made in an endless variety of grades and weights and serve various purposes.

Waxed paper completely changed the bread industry, because it was found bread sealed in waxed paper could be baked in central bakeries and distributed *oven fresh* throughout large areas. Not that any wax paper would allow this, but the proper weight base stock and the correct amount of wax coating allowed the bread to breathe—for yeast in bread does not entirely stop act-



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ing after the bread is baked. In good bread there is a secondary yeast action which results in giving off certain gases and moisture content which, if confined, hastens the formation of mold and chemical reactions.

Waxed paper that allows bread to breathe is of great value; it duplicates nature, in that it has the properties of the natural outer coverings of some fruits. While it is possible to make a waxed paper resistant to moisture, the fact that paper can be waxed to allow moisture to pass through is a highly valuable property.

Waxed paper has been exceptionally valuable in the baking industry; it is also equally valuable in the confectionery, soap, florist, tobacco, medical and many other lines of manufactured products.

With the introduction of electric refrigeration, which is a dry cold, wax paper is more and more used to prevent loss of moisture due to the cold dry temperature of electric refrigeration. Electric refrigeration in conjunction with waxed paper gives nearly perfect preservation, also preventing flavor contamination from foods in the ice chest and excluding all injurious atmospheric influences.

The development of opaque waxed paper is the most important progression that has occurred in recent years and it deserves attention from all who package. Opaqueness has enhanced the advertising value of waxed paper and especially is this true when the paper has been coated with colored pigments and then waxed. Such papers have a definite purity of hue and brightness, and offer a brilliant contrast to printed matter.

Research has shown that opaque waxed papers, that immediately became popular through their superior appearance, are effective in retarding harmful changes in many products accruing from light rays. In other words, opaque waxed paper is penetrated less by light rays than ordinary waxed paper or a white transparent paper and that colored opaque waxed papers are considerbly superior to white opaque waxed papers.

Just as colored glass bottles are a protection from light rays, opaque waxed papers, especially if colored, advantageously replace ordinary waxed papers or transparent materials in packaging products that may turn rancid, lose flavor or color or otherwise be affected by exposure to light. Waxed paper is also made transparent, when it is desirable that the printed matter on the container be clearly visible.

A development that reduces cost in carton packaging and at the same time retaining or excluding moisture to suit the product is becoming extensively used. Formerly cartons were purchased printed, then product filled and the carton wrapped in waxed paper and hot sealed—fusing the waxed surfaces together. Today a plain unprinted carton is used: the waxed paper is printed in a continuous roll, then a hard, glossy coat of wax is applied on the printed side. When the waxed paper is used for wrapping the filled carton, each wrapper is automatically cut off from roll and accurately registered by an electric eye device. As the wrapper is cut it is fed over a glue roll that applies a thin even coat of the adhesive to the unwaxed surface. This method gives the finished package a smooth, glossy appearance, a prepossessing and permanent product identification, sift-proof and insect-proof and a lower cost per carton.

TYPES AND USES OF GLASSINE PAPERS

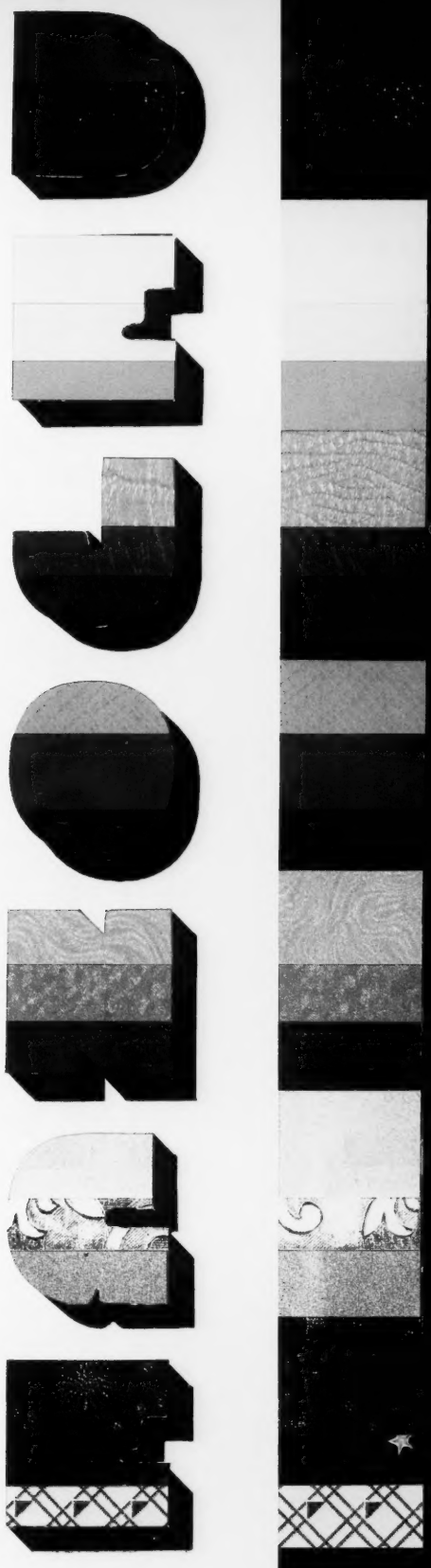
BY FLLOYD TRIGGS

THE LAST FEW YEARS have brought revolutionary changes in the field of glassine papers. New processes have produced natural glassines of great transparency and have given to all glassines a new property of soft, pliable strength. Inasmuch as the average glassine mill and waxing plant produces well over a hundred varying grades of paper, it is simpler to treat glassine from the standpoint of general use.

From this angle most glassine papers fall in four groups: outer wraps, carton liners, bag stocks and special industrial glassines. While varying greatly in appearance, the glassines found in each group possess the common characteristics of high grease resistance, cleanliness and low cost. When waxed, all glassines become decidedly moisture-proof and self-sealing through the application of heat. Recently developed adhesives have also made it possible to glue waxed glassine in either a bag or carton wrap without the necessity of providing a dry stripe in the paper for this purpose.

In the first division—outer glassine wraps—a high degree of transparency is usually found. The papers in this group are known in the trade as "Super-transparent Bleached Glassines." They are designed to work rapidly on packaging machinery, to print with facility on ordinary presses and to provide a neat, tight seal with ordinary adhesives. As a carton wrap, this group of glassines offers approximately 90 per cent of full transparency.

Although this field for unwaxed glassine has declined in volume recently due to the advent of transparent cellulose, lost tonnage has been more than replaced by the increased use of waxed super-transparent glassine in the baking industry, and by greater use of waxed



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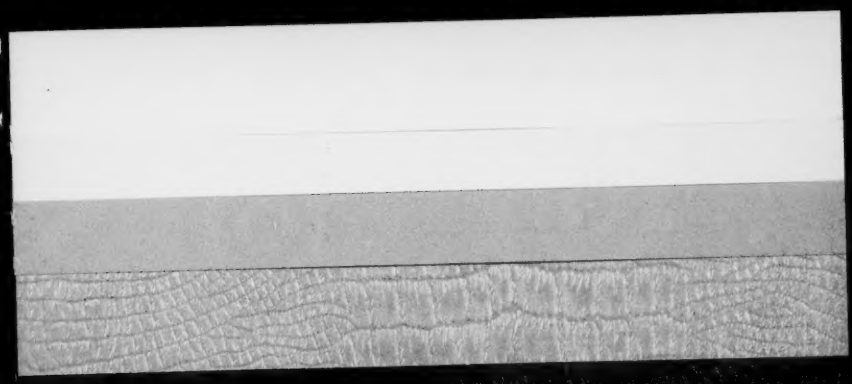

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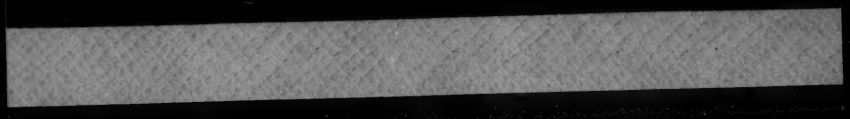

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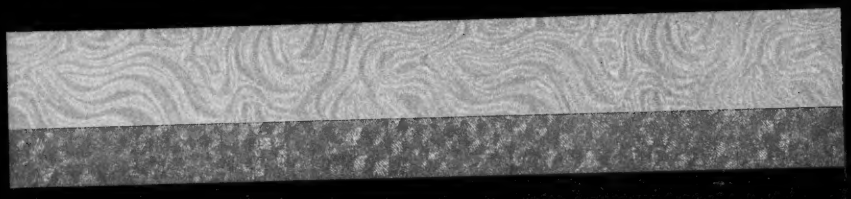

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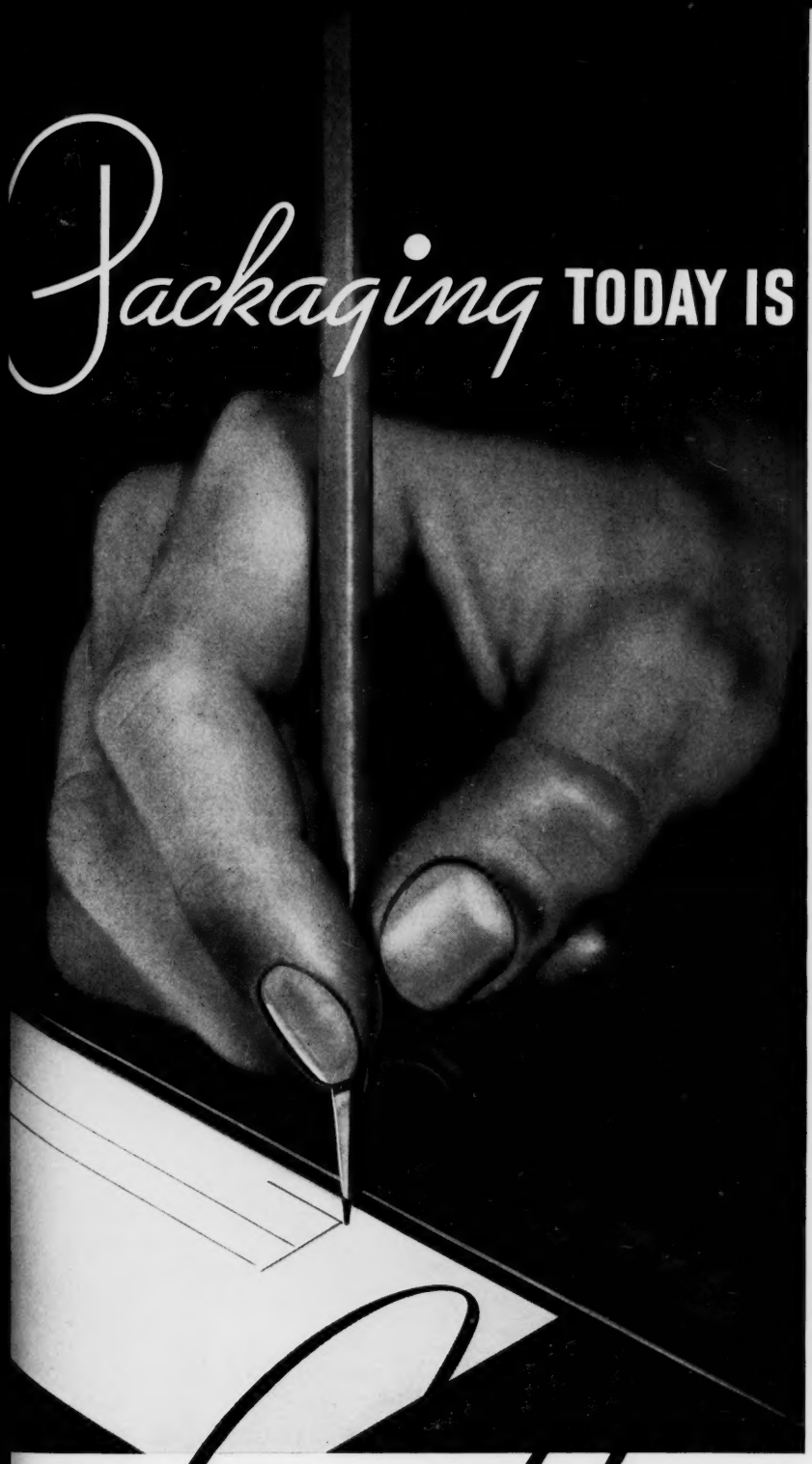

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glassine carton liners to replace waxed papers offering less moisture-protection.

From the standpoint of volume and variety of grades, the second division—carton lining glassine—is of greatest importance. In this group are found both bleached and unbleached glassines, the latter tending toward a light gray or an amber color. While transparency is of little importance, grease and air resistance are kept at a high point and the moisture-proof quality of the waxed liners is particularly developed. Many manufacturers have found it economical to have special glassine liners developed to meet the specific needs of their product and packaging machinery. Aside from these individually produced glassines, the unbleached grades find general use in cracker cartons, coffee bags and in lamination with box-board. The bleached liners are used for cereal, prepared flour, cocoanut, gelatin, candy and an endless number of other products requiring a sift-proof, sanitary, grease-proof or moisture-proof (if waxed) liner of low cost.

In the bag and envelope industries two general types of bleached glassine are prevalent. These are known as "Super-transparent Bleached Glassine" and as "No. 2 Bleached Bag Glassine." In the manufacture of bag glassines, special attention is given to strength and pliability, while transparency varies with the cost of the grade used. The baking industry is perhaps the largest user of glassine bags but the number of other products so packaged—potato chips, grated cheese, collars, novelties, etc.—is legion. Present day bag machinery has kept pace with the rapid developments of the lining and wrapping machine manufacturers and many types of glassine bags can now be made at a speed of 700 per minute. Bag glassines are made to print well with both oil and aniline inks, and the printing of these bags is normally a part of the manufacturing process. By a process of waxing on one side with a dry strip for gluing, a moisture-proof bag is produced. Two lightweight glassines, laminated together with wax, form a special bag paper used where exceptional moisture-protection is of definite advantage.

The fourth division—industrial glassines—must be adopted to cover a multitude of little known but widely used special papers. The pharmaceutical field uses as a bottle wrap a special transparent glassine with a high resistance to breakage when twisted. Ball bearings are wrapped in a special heavyweight amber glassine. Ticker tape projection devices use narrow rolls of a ready-printing transparent glassine.

Many of the papers mentioned above are prepared in special colors and with embossed designs. The colored glassines make economical and attractive candy cups, and pads of colored corrugated glassine have reduced breakage and added to the appearance of many packages. In commenting on these special industrial glassines, mention should be made of lacquer-coated glassine of high shine and perfect transparency. Several papers of this type are now made and are being used commercially for bags, carton wraps, tobacco, baked goods, etc. The best lacquer-coated glassines are highly transparent, odorless, heat-sealing, glossy, moisture-proof, greaseproof and readily printable.

It is obviously difficult to treat with such a complex group of papers in a few paragraphs. The glassine mills, however, are located at central points throughout the country and employ large laboratory research staffs, the services of which are available without charge to package designers or manufacturers.

GENUINE VEGETABLE PARCHMENT

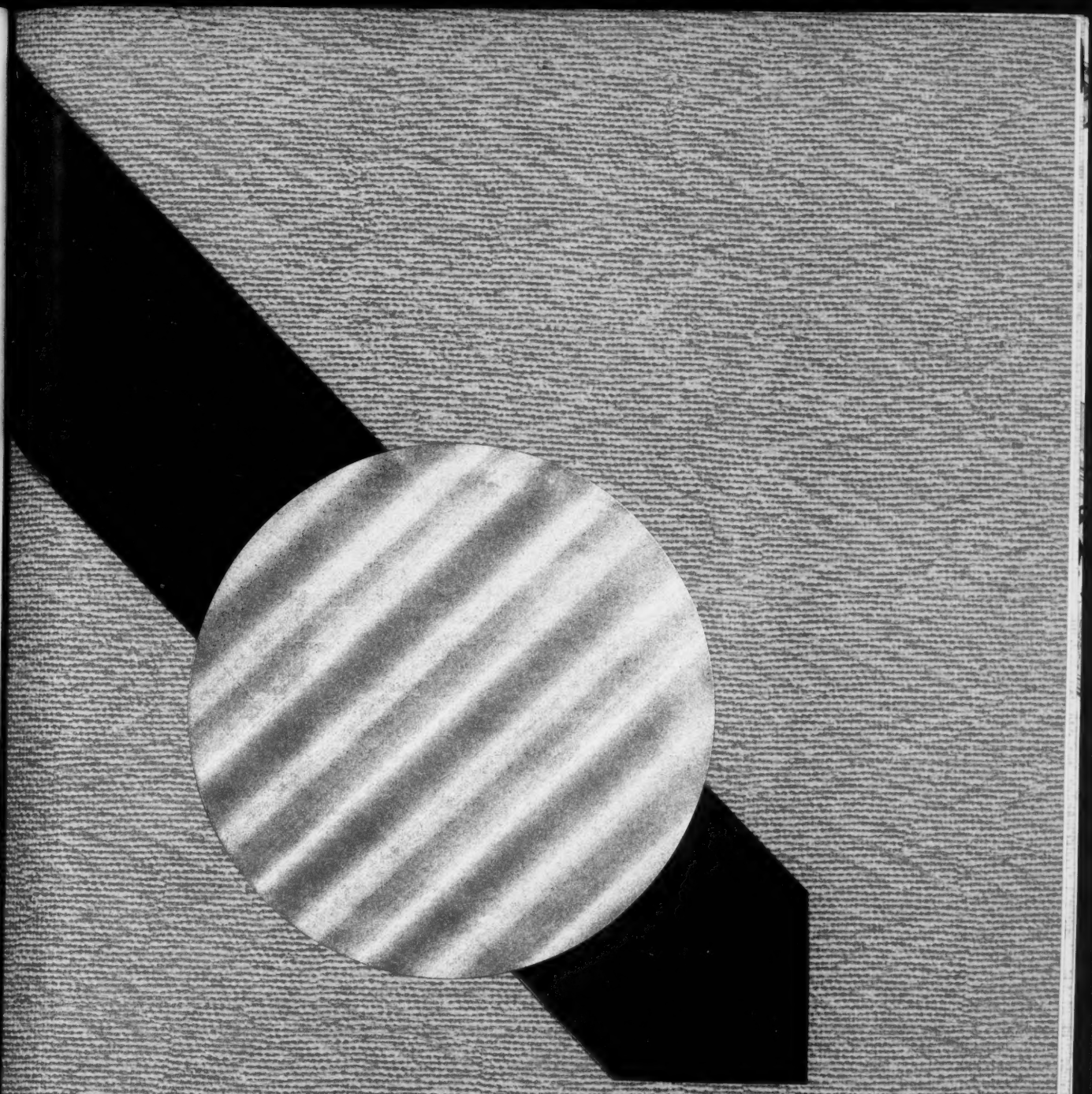
GENUINE VEGETABLE PARCHMENT has been used for the protection of foods for a quarter of a century. Chief among the users are:

Meat Packers: Fresh meats, such as pork loins, beef tenderloins, pork sausage, etc., need protective wrappings that will not disintegrate in contact with the meat juices. Genuine vegetable parchment is "stronger wet than dry," is not completely airproof, and is the ideal wrapper for these products. Smoked meats and cooked hams are wrapped in genuine vegetable parchment, not only because it is snowy white in color, but because it is grease-resistant. Being soft, pliable, and strong, parchment does a "better job of wrapping." Lard and shortenings in cartons or boxes are protected in genuine vegetable parchment to avoid grease leaking through the container. It folds without breaking at the corners and is highly satisfactory as a wrapping material, as evidenced by the fact of its having been used for years for these products.

Crinkled genuine vegetable parchment is a sheet of parchment which has been creped or crinkled, to increase its strength. Among its uses in the packing house are as liners for boiled ham retainers, the users claiming that a better yield is obtained, there is less labor of cleaning the molds and that the molds do not have to be re-tinned so frequently as they do not pit quite so badly.

Fish Packers: The fishing industry uses genuine vegetable parchment for fresh, frozen and smoked fish. The reason is obvious, for there is need for a sheet that will stand moisture, brine and salt and is oil and grease resistant, and genuine vegetable parchment fully meets those specifications. Some of the packers use parchment waxed on one or two sides, for frozen fillets, because of the better insulating value and the fact that the waxed surface prevents the paper from sticking to the fish during freezing and in transit.

Poultry Packers: The poultry packer uses genuine



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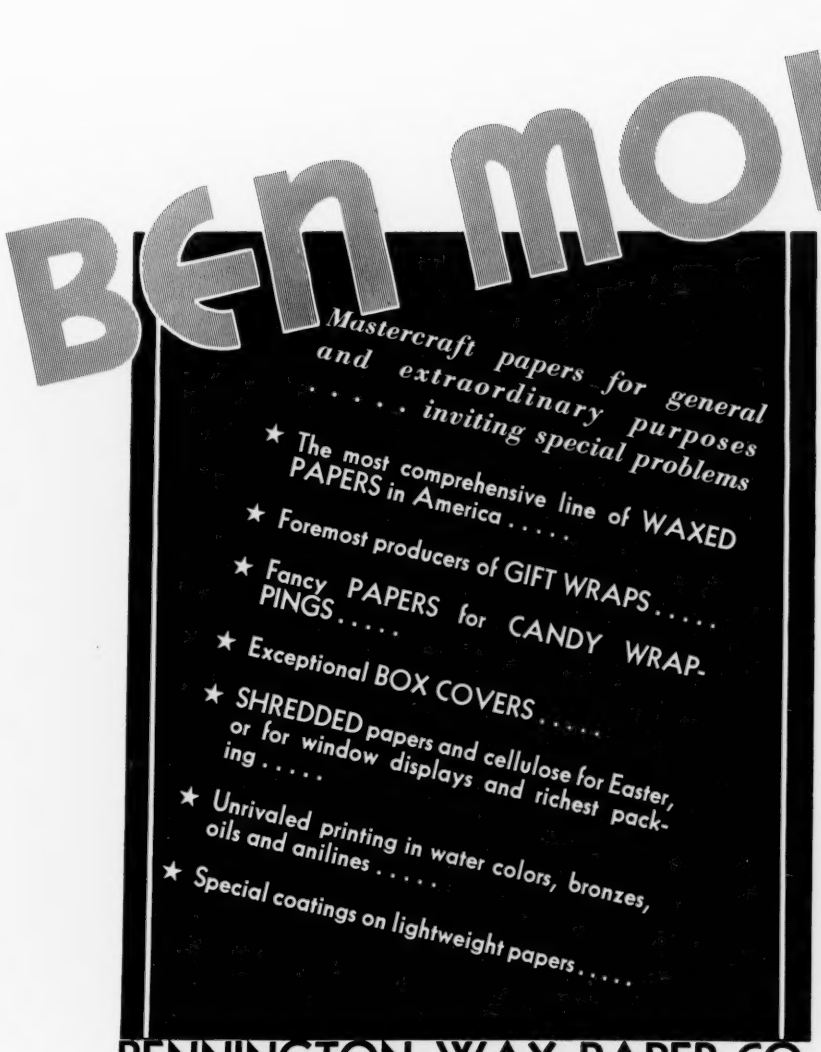
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vegetable parchment because it makes him money on his birds; for genuine vegetable parchment will definitely prevent freezer burn, discolorations and bruises, any one of which will make the packer take a discount of ½ to 2 cents per pound. The reason is that genuine vegetable parchment absorbs the moisture from the body and the viscera drawn out of the birds during freezing, thus preventing the formation of ice particles on the skin. The poultry packer not only uses genuine vegetable parchment to wrap each bird, but he lines his boxes with the same sheet. The fact that he wraps each bird in parchment enables him to pack both white and yellow birds in the same box, and thus bring about a material saving in labor.

Lard and Shortening Manufacturers: This industry uses genuine vegetable parchment in a number of ways. The first use is for liners and circles on tubs and tins. Then when the cartons come into use, genuine vegetable parchment in sheets for Peters style cartons, or made into bags for end opening cartons, is the universal package liner. And it is equally successful in the newer package idea of shipping fifty pounds in wood or fiber boxes, lined with parchment. The whiteness of the paper blends well with the color of the lard or shortening, and its extra softness allows folding without breaks at the corners and resultant grease penetration.

Dairy Industry: Butter has been wrapped in genuine vegetable parchment for many years, and there is no other sheet on the market that will fully protect and deliver the product to the refrigerator in the home as well as parchment. It resists the moisture and salt, and the freedom from odor or taste places it at the top of the list for butter protection. And it protects enemies from without as well as from within, for parchment will keep foreign odors away from butter. It is used as wrappers for prints and rolls, and as liners and circles for tubs and tierces. Up-to-date creameries usually boil the sheets of parchment in water or brine to kill any mold spores that may have formed while the paper is in storage at the creamery.

Ice cream wrapped in genuine vegetable parchment is fully protected from contamination. No shreds of paper to pull off, for parchment just won't go to pieces when it's wet. And the delicate snow-white color is typical of the delicately flavored, 100 per cent American product within. The new idea adopted by Borden, of having the little individual cubes or cones of ice cream for sodas, includes the wrapping of the individual portions in genuine vegetable parchment.

Vegetable Industry: Lettuce, broccoli, celery, spinach and other vegetables, shipped in a more or less moist condition, are wrapped in genuine vegetable parchment for protection. The crates or boxes in which they are shipped are lined with parchment to hold the contents in prime condition.

Printing: Special inks are used in the printing of genuine vegetable parchment, for the printing must not offset when used on greasy, wet or briny foods. The inks must stand the boiling test, for if you will refer back to the dairy industry, you will find that most of the dairies boil their butter wrappers and liners before they use them. The majority of the wrappers are printed. Printed wrappers are probably one of the best mediums of advertising, for the carton of butter with its printed wrapper enclosing the print, goes right to the home and is looked at many times daily by the one who does most of the buying.

The parchment industry maintains a research department to work out special problems of packaging for their customers. Likewise the manufacturers maintain art departments to assist in the suggestion of special designs for the various items of their business.

USES OF TISSUE PAPER IN PACKAGING

BY HENRY W. VOGLER

TISSUE is being used in this country in packaging an ever widening range of products. Its use has become so important to many concerns that no one interested in producing more effective packages can afford not to investigate the advantages of using tissue. It can be used right along with almost every other packaging material performing always an additional function to more than justify its negligible cost.

The primary function of tissue paper is adding refinement to the packaged product. Its use adds a touch of character to articles as far apart as a whiskey bottle and piece of fine lingerie. Literally, hundreds of products can gain the impression of finer quality by the simple and inexpensive process of wrapping them in a good quality sheet of tissue. The tissue operates much like the striping on an automobile. Both give a finished touch to the product.

There is however, a secondary function of tissue paper. To many articles it gives protection during shipment—a type of protection which varies with the nature of the article and the kind of tissue used.

There are of course different grades of tissue with different characteristics. For all-around packaging, where both appearance and protection are important, the most popular grade is No. 1 White. This is a full bleached tissue made of an all sulphite finish. Color,

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Roto Papers individualize boxes, and build customer acceptance.

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Fast-to-light and non-bleeding, fully up to standard for strength and fold.

Over one hundred *Roto Printed* Greeting and Announcement papers are available.

•

The swatch on the reverse side shows a few assorted designs on a number of grades of base stock. May we send you sample books showing many more?

This insert is printed on *Roto Printed* TWILTEX COVER

HOLYOKE CARD & PAPER CO.

SPRINGFIELD . . . . . MASSACHUSETTS

RIEGEL
PAPERS
The Riegel Mills offer the most complete line of packaging papers available today. This broad field of practical experience enables us to offer you a paper accurately fitted to its job—a procedure that usually results in either a more practical package without additional cost, or in a lower production cost on your present package. This portfolio contains samples and technical data on 16 popular papers selected from our complete line of over 130. Working samples of these papers will be gladly furnished, or write us for paper suggestions to meet your specific requirements.
Quaker PUFFED RICE
Quaker WHEAT CRACKELS
Post Toasties Corn Flakes
KERR'S COFFEE SCOTCH
ASSORTED BISCUIT
PIC-WAX HEAVY WAXED PAPER
FLAKO PIE CRUST
CATCHER 10¢
Kellogg's CORN FLAKES

130 Riegel Papers Simplify the Selection of Exactly The Right Sheet To Meet Your Individual Packaging Requirements

SIXTEEN POPULAR RIEGEL PAPERS WITH PACKAGING DATA ON THEIR PHYSICAL QUALITIES

The following table shows the comparative qualities of the papers contained in this portfolio. In addition, there are other general advantages applying to all Riegel lines. They work rapidly and economically on automatic packaging machines. They will not dry out and crack. They are furnished in sheets or rolls of any size. They are correctly priced.

Key Number	Grade	Std. Wts. (per 500 sheet rm. of size 24x36)	Transparency	Resistance to: Grease or Oil	Resistance to: Moisture	Sealing: Heat or Glue	Other Qualities	General Use
1	Greaseproof Parchment	25-30-40-60	None	High	Slight	Glue	Grease cannot penetrate or spot	Ham and bacon wraps. Carton lining. Xmas cards. Corrugating.
2	Diafane	20-23-25	High	High	High	Both	Hard glossy surface. Not waxed	Doughnut wraps. Package wraps. Env. windows.
3	Riegelite	23-28	High	High	High	Heat	Low-cost. Pliable. Crack-proof	Outer wraps and bags for food products needing moisture resistance or retention.
4	Laminated Riegeline	35-43	Moderate	High	High	Glue	Inner wax layer gives moisture protection without surface wax	Carton lining. Pipe tobacco packages. Moisture-proof bags.
5	Amber Glassine	25–29	None	High	Slight	Glue	High grease resistance at low cost	Carton liners. Coffee bag lining.
6	Bleached Glassine	25-30-40-50	Slight	Fair	Slight	Glue	Cheapest bleached Glassine.	Carton lining. Low cost bags and envelopes not needing transparency.
7	Colored Glassine	25 (7 colors)	None	High	Slight	Glue	Light-proof	Corrugated padding. Bottle and package wraps.
8	Riegeline	20-25-30	High	High	Slight	Glue	Twists well. Very economical. Pliable	Outer carton wraps and bags. Bottle wraps.
9	Embossed Glassine	25 (6 designs)	Slight	High	Slight	Glue	Decorative appeal	Bags, env. and outer wraps.
10	Bleached Glassine (Waxed 1 side)	27	Slight	High	Moderate	Both		Wax-lined bags. Carton lining.
11	Waxed Amber	29-33	Slight	High	High	Heat	High moisture resistance at low cost	Carton liner for crackers.
12	Manila Waxed Sulphite	35	Slight	Slight	Moderate	Heat		Carton lining.
13	Transp. Waxed Sulphite	24–30–34	High	Slight	Moderate	Heat		Carton wraps.
14	Waxed Bleached Glassine	29	Slight	High	High	Heat		Carton liners.
15	Printed Waxed Sulphite (Opaque)	——	Slight	Fair	Moderate	Both		Bread, carton and candy wraps.
16	Nebulon	——	None	Slight	Moderate	Glue	Novelty and decorative appeal	Box covers. Xmas cards. Counter Displays.

PAPERS OR CONTAINERS NOT SAMPLED HEREIN, BUT RECOMMENDED BELOW

17 Bag Lining of No. 5 or No. 8
18 Dry Waxed Sulphite
19 Ordinary Waxed Sulphite
20 Window-front Bags
*21 Vegetable Parchment
*22 No. 6 Laminated to Foil
*23 Unlined Tins
24 Laminated Sulphite Bag
25 Celoglaze Side Stock
26 Foil
*27 No. 6 Laminated like No. 4

*Not manufactured by this company. Information gladly furnished.

A LIST OF PRODUCTS WITH PAPERS RECOMMENDED FOR THEIR PACKAGING

(All Recommendations based on Similar Use by Recognized Manufacturers)

Numbers refer to Items listed above. Recommendation indicates grade used, although frequently in a weight different from the sample herein.

	Packages: Inner Wraps	Packages: Outer Wraps	Bags or Envelopes	Special
Bacon	1-6	8-10	——	1-2-8
Bottle Wraps	——	8-7	——	——
Box Covers	——	16	——	——
Box Leaves	7-8-9-16	——	——	——
Box Lining—Fancy	9-16	——	——	——
Greaseproof	1-5-6	——	——	——
Moistureproof	10-11-14	——	——	——
Bread	——	3-15	——	——
Bread Sticks	——	8	——	3-6-8
Butter	——	——	——	21
Cakes and Cookies	——	3	3-4-8	——
Candy Bars	6-19-27	3-8-13-15	——	——
—Penny	——	6-8	——	——
Candy—Boxed	9-13	2-8-16	——	——
Bulk	——	——	——	15–19
Candy Cups	——	——	——	7
Cereals	14	3-13-14	——	——
Cheese	——	26	——	22
Cigarette Cartons	——	12-13-14	——	——
Cocoa	——	——	——	23
Cocoanut—Shredded	14	3-13	——	——
Coffee—Bags or Cartons	5	——	——	17
Collars—Soft	——	——	8-9	——
Corrugated Padding	——	——	——	1-7
Cough Drops	——	3-12-13	3-4	——
Crackers—Paper Containers	1-11	2-8-13	3-4-8	——
Tin Containers	1-14	8	——	——
Dates	14-19	3	——	——
Doughnuts	——	8-15	2-8	——
Drugs	1-4-11-19	7-8-9-15	6-8	——
Envelopes—Sampling	——	——	3-6-8	——

	Packages: Inner Wraps	Packages: Outer Wraps	Bags or Envelopes	Special
Envelopes—Window	——	——	——	2-8
Flour—Prepared	10	——	——	——
Frozen Confections	——	10-26	9	——
Frozen Fruits	15	8	——	——
Fruits—Dried	12	8	4	——
Gelatin Powder	24	——	24	——
Greeting Cards	——	——	——	1-16
Ham—Whole, Cured	——	1-9	——	——
Health Foods	1-19	3-8-13	——	——
Ice Cream	21	6	——	——
Insecticides	19	7-8-13	——	——
Lard	15	——	1	——
Macaroni and Noodles	18	——	4-8	20
Napkins—Paper	——	8-9	——	——
Oleomargarine	1	——	——	——
Pies	——	——	8-20	——
Potato Chips	11-14	8-13	3	——
Pretzels	10	3-6-8-13	4-8	——
Rice	6-10	8	——	——
Rolls—Pan	——	3	3-4-6	15
Shirts	——	8	8-20	——
Soap—Cake	6	8	——	——
Chips and Powder	12-14	13	——	——
Spices	10-12-14	3-8-13	——	——
Stocking Wraps	——	8	9-16	——
Sugar	14-19	——	——	——
Tea	10	3-8	——	——
Tobacco—Chewing	4-18-22	2-8	——	——
Pipe	4-18-22	2-8	——	——
Toothpaste	——	2-8	——	——
Window-Front Bags	——	——	——	8-25

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Liberal Working Samples of any of these Papers sent without charge. Please state Name and Number of Paper, and Size of Sheet desired.

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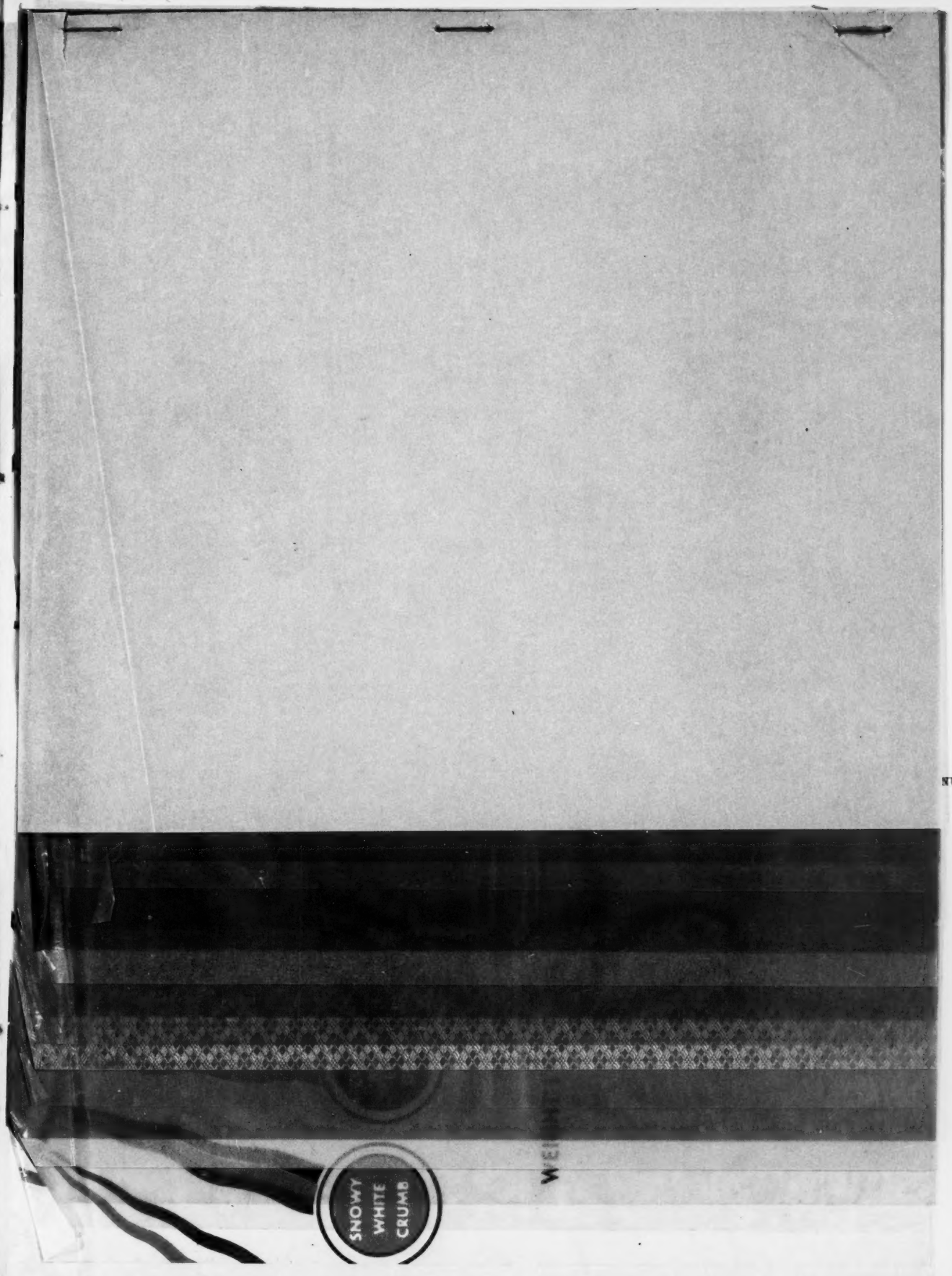

KEY NUMBER
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AN INVITATION

There are over 130 Riegel Papers made to fit the specific packaging needs of various industries. If you're faced by some production problem, bringing out a new package, dressing up an old one, or just frankly trying to cut your packaging costs . . . write us your requirements today. To manufacturer, printer or advertising agency we offer unbiased advice based on experience and research work in many fields. There is no charge, of course.

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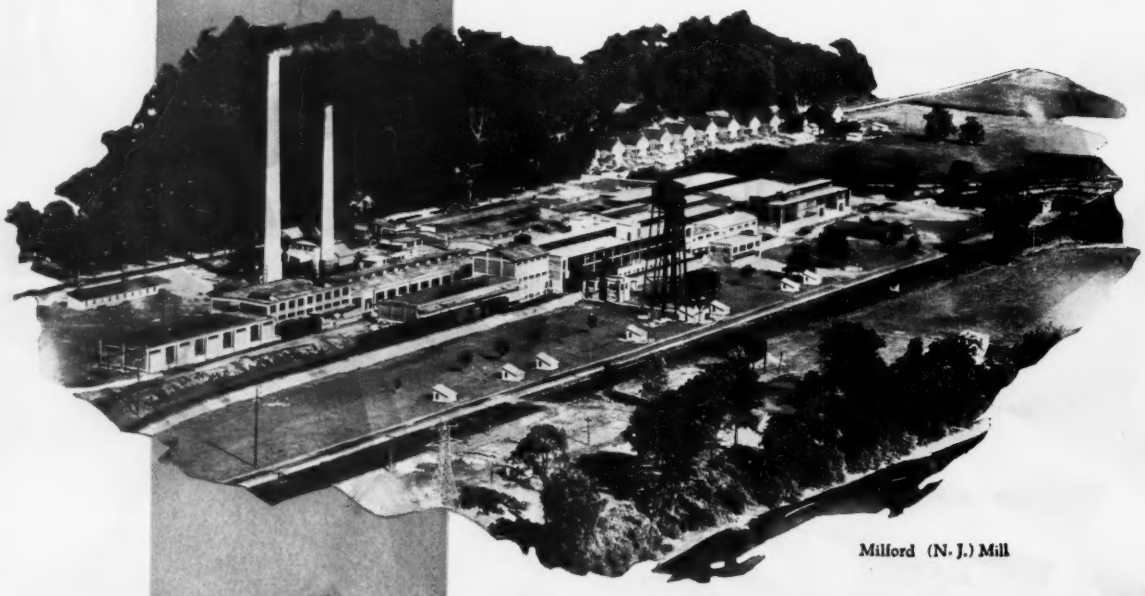

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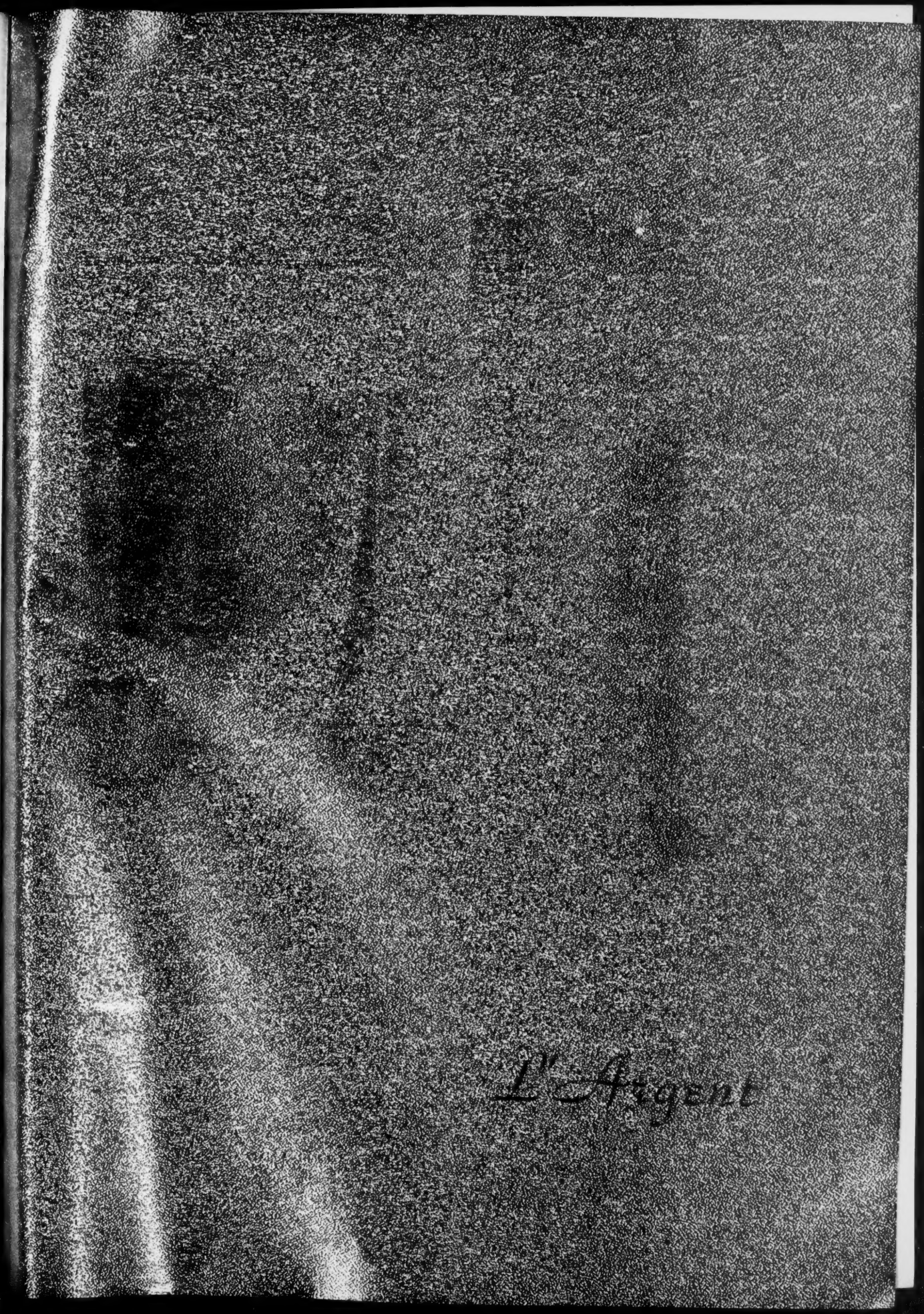
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Dobeckmun's high-speed, accurate-register printing presses produce millions of printed wrappings yearly, in brilliant color combinations that attract attention and make the wrapped products stand out. Self-selling, again!

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Sparkling new-day DOPLEX Fabrics and Papers, produced by our exclusive process, provide an endless variety of decorative effects for home, store and window display use.

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Dobeckmun was *first* to develop cigar pouches of "Cellophane" solving the old problem of keeping freshness and flavor in cigars. For many products, similar pouches, printed or plain, make attractive packages, that sell easily.

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Write Department "S" for Samples, Prices, Particulars

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can be made and how substantially gift sales can be increased with an intelligent, forward-looking gift wrapping policy. Decorated tissues are used extensively for gift wrapping especially during gift buying seasons.

Laundries use tissue, too, as do dry cleaners, tailors, gift shops, stationery stores, haberdashers, apparel shops, milliners. And, though waxed, it is still tissue that the butcher, the baker and the grocer use as an inner wrap for a variety of articles ranging from cold meats to hot doughnuts, as sold over the counter.

It must be mentioned, too, that both plain and waxed tissue, cut into fine even shreds find an important use as a soft, clean and highly resilient packing material. Green and purple shredded waxed tissue is the standard material for packing Easter candies. Plain and waxed tissue excelsior is used for packing.

It is obvious then, that tissue paper is already an important packaging material. It is destined to become even more so. The good taste of the American people is gradually improving. Packagers are obliged to improve right along with it. The use of tissue is one effective means, and an inexpensive one, of doing so.

APPLICATIONS OF LAMINATED TRANSPARENT CELLULOSE

DIVERSIFICATION in the use of transparent cellulose comes only after long experimentation and research work. Probably the newest outstanding practical application of cellulose in packaging is its lamination directly to the package structure. Laminated cellulose directly affects packaging in two major ways: First, for all cartons, boxes, etc. which are over wrapped in cellulose, a single wrapper may now be used; and secondly, other packages which can only be wrapped in a single sheet may have the wrapped package effect.

The beauty of a printed sheet, particularly an illustrated sheet, depends on the quality of the paper to give deep producing effects to the printing. A great deal has been done with papers to produce these deep effects. Also, printed sheets have been coated with transparent pyroxylin coatings to produce attractive tonal qualities in printing. Thin transparent sheets of cellulose acetate in common with pyroxylin coatings when laminated to paper produce glossy, impermeable, durable finishes in addition to the very important effect of tone quality in the printing.

While the use of transparent cellulose is primarily for appearance, it also possesses extensive protective qualities, greater than either of the base materials them-

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ALL DAY for $2.
BOX LUNCHEON 60¢
EVERY SUNDAY
ON THE BIG OCEAN LINER
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JUNE 14 to SEPT. 18
Sea breezes, rest, and recreation away from the city's noise and heat! All the adventure and thrills of an Atlantic voyage. Glide past Manhattan's gigantic towers, and see the white-winged yachts, swanky speed-boats, and mansioned shores of beautiful Long Island Sound. Music and dancing, horse racing and other deck games, spacious decks, transatlantic gaiety. Airy, comfortable staterooms $1 up.
SAIL
EASTERN STEAMSHIP LINES
SUNDAY SEA CRUISE
ALL DAY for $2.
BOX LUNCHEON 60¢
EVERY SUNDAY
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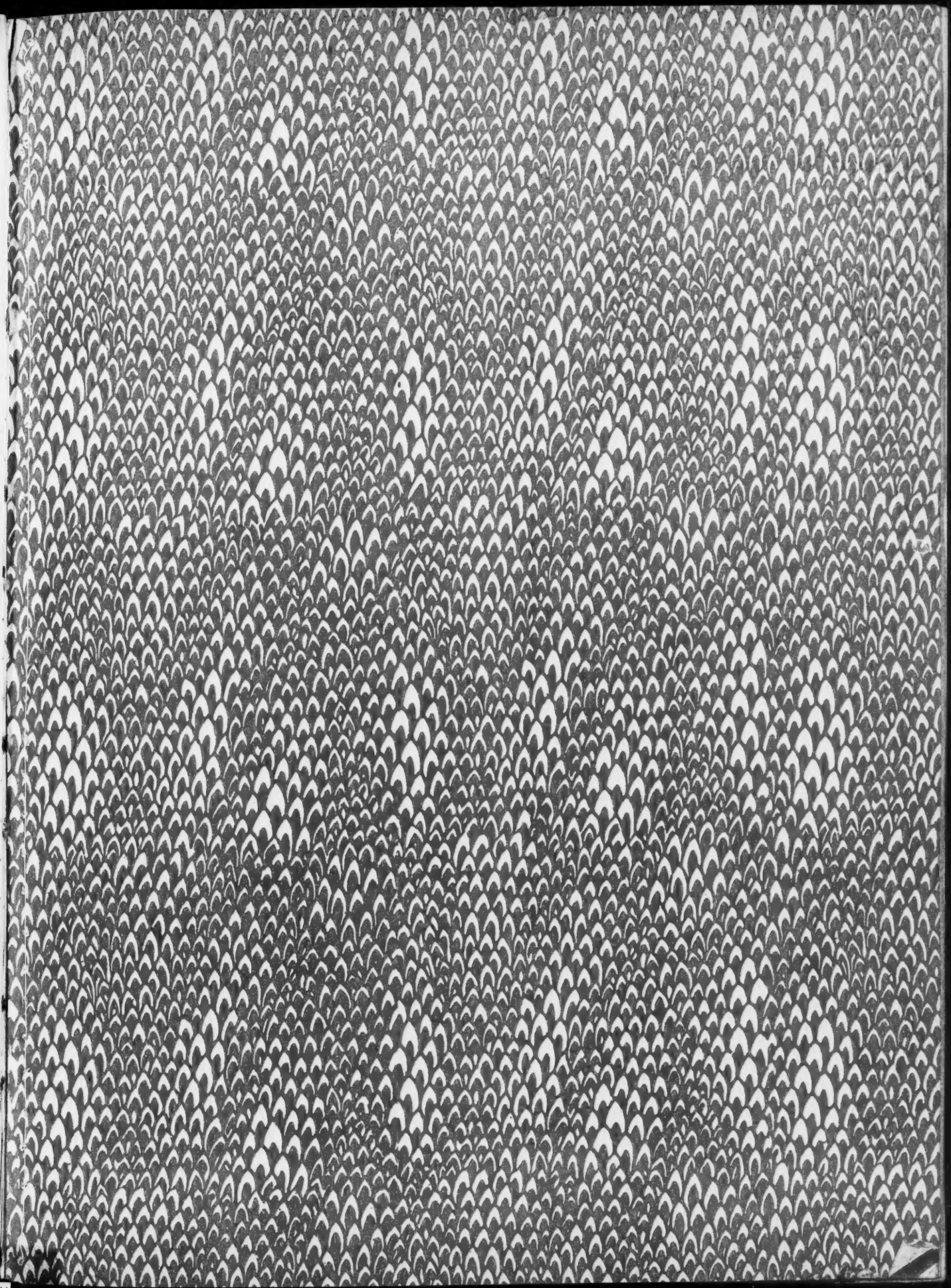
Sea breezes, rest, and recreation away from the city's noise and heat! All the adventure and thrills of an Atlantic voyage. Glide past Manhattan's gigantic towers, and see the white-winged yachts, swanky speed-boats, and mansioned shores of beautiful Long Island Sound. Music and dancing, horse racing and other deck games, spacious decks, transatlantic gaiety. Airy, comfortable staterooms $1 up.
SAIL from Pier 25, North River (foot of Franklin St.), New York. Leave 10:30 A.M. (Daylight Saving Time). Through East River and over 100 miles of cruising in Long Island Sound. Eastward along the Connecticut coast and following the Long Island shore on the return. Back in New York about 6:00 P.M. (Daylight Saving Time).
EASTERN STEAMSHIP LINES

Illustration at right shows effect obtainable when lamination is applied, as contrasted with ordinary printed sheet as shown at left. Illustrations, courtesy of Celluloid Corporation



HAMPDEN

BOX PAPERS

More than fifty years making decorated papers for the set up box maker, has given us a keen understanding of his problems. Our laboratory and art research departments are continually at work creating new designs and coated treatments to meet the ever changing demands of the times.

•

In this swatch of different types of decoration is shown some of the most recent developments from the Hampden Mills--The insert on which this is printed, is still another popular number--Samples of hundreds of other color treatments are available from the mill.

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New Leather 2450

Cluster Dot 585-625-C

Brocart I-30-BL-75

Velvet Lustre I-30-AY-230

Star 623-D-42

Modern Flint 27-O-230

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Metaloid

PYROXYLIN
COATED PAPER

The Beveridge-Marvellum Co.

HOLYOKE MASSACHUSETTS

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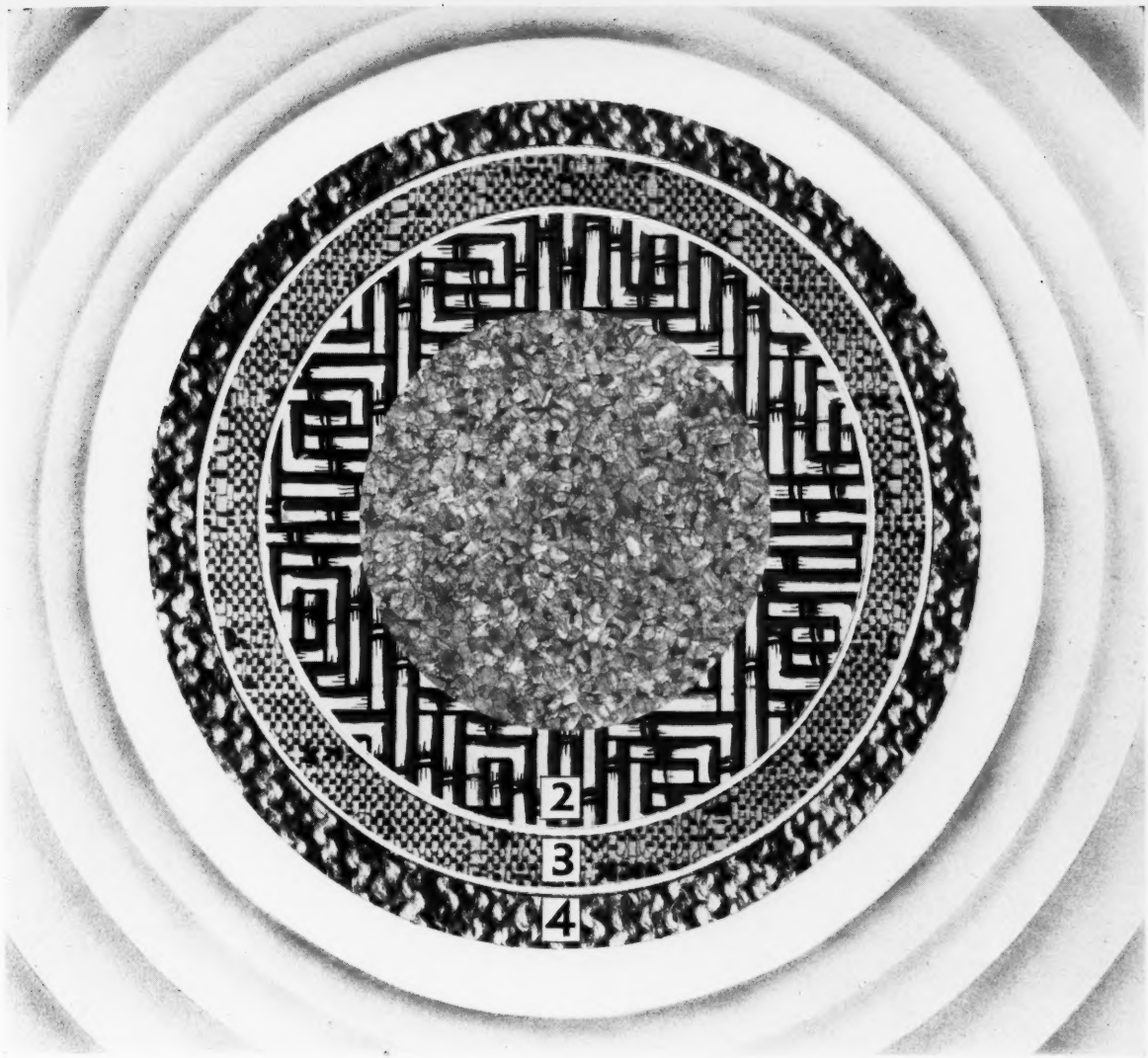

*** Embossed Natural (1) "Corktec" Paper, shown in center above, has proven so practical and popular that we are adding several exclusive new Papers, a few of which are illustrated: (2) "Bamboo"; (3) "Crashtec"; (4) "Knitec". Send for samples and information.**

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selves would yield. Its uses, economies, and general service are best shown by enumerating a few of the many applications for the material.

Folded cartons—printed or lithographed, in either large sheets or in roll form—may be directly coated, or laminated with cellulose, then cut into blanks, glued, folded and delivered—ready for distribution—with the cellulose applied, without any after wrapping.

Merchandise envelopes—in particular those which are displayed on counters, and where the contents are susceptible to moisture, water, handling, etc.—when laminated before folding offer not only sales appeal, but also protective qualities. Often a double envelope may be replaced by a single one with greater appeal.

Labels are made distinctive, waterproof, not subject to collection of dust and dirt, permanent and outstanding to the highest degree.

Another use which is growing in popularity is the lamination of cellulose to fancy box wrappers. Beautiful and elaborate papers, fabrics, metallics, and even lacquer finished, are greatly enhanced by the over-

Laminated book jackets improve appearance and add durability. Laminated soap wrappers take the place of two single wrappings

coating of a film. Likewise the less expensive printed papers may be brought up to be one of the most outstanding by this process. The colors are intensified, the designs brought out and, although highly polished, the most delicate detail is preserved.

The publishing field has been one of the first to adopt laminated jackets for books. The advantages found in the use of laminated book jackets are two-fold. One is to enhance the beauty of the jacket and secondly, to make the jacket durable and cleansable for laminated papers are easily washed with a damp cloth and soap.

The use of a single wrapper to replace a double one appears to be a very important development for laminated cellulose. For example: We may take most any small article, such as a cake of soap, and find that it is wrapped, first, usually in a fine printed or lithographed wrapper, and then re-wrapped in film. This method of wrapping such a product would be to laminate printed cellulose with the plain paper, which not only saves the double wrapping operation, but greatly enhances the beauty of the package, due to the printing being on the cellulose.

Cellulose film, having such a vast number of useful characteristics, makes lamination an important factor outside of strictly the packaging area. All sorts of printed pieces—for either display, merchandising or protection—may be laminated to obtain the desired result. Magazine covers, posters, advertising broadsides, mail pieces, displays, signs, etc., may all benefit by the film covering.

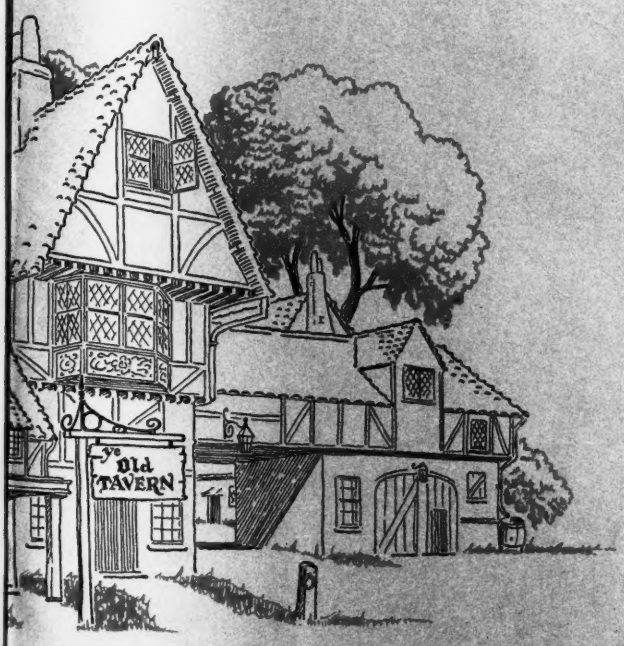
As spoken of above, this development is the result of considerable research effort, and it is in order to mention a few of the obstacles that were present in its early stages. Cellulose film being of a very different character from paper—as to stretch and shrink factors, moisture content, etc.—would ordinarily cause the laminated material to warp and curl. This was overcome by the use of cellulose acetate, together with a solid or non-fluid adhesive. The feeding of sheets of all sizes and many different types and weights of paper had to be accomplished because of the wide field in which the product would be used. At the present time lamination is being done with large and small sheets as well as rolls. The prospects for a wider adoption of laminated papers in the packaging field are imminent and promise to produce very unusual and attractive effects.

The adhesives used play an important part in the perfection of the finished sheet. They must add more gloss and sheen than that which the film itself lends; they must be plastic—non-cracking—safe against weather conditions and withstand outdoor use as well as indoor. Adhesives may be varied to some degree to obtain some particular characteristic, but generally the hot melt type is used exclusively.

OTHER COVERINGS, LININGS AND WRAPPINGS

ARTIFICIAL LEATHER offers a medium for covering boxes which allows for many and varied effects. This is a standardized material, the base of which may be either cotton fabric or latex saturated paper. To either of these base materials, a coating of pyroxylin is added. Usually, the artificial leather is grained with leather grains or other designs and may be furnished in more than one color. When other colors are added to the

OLD TAVERN GOLD



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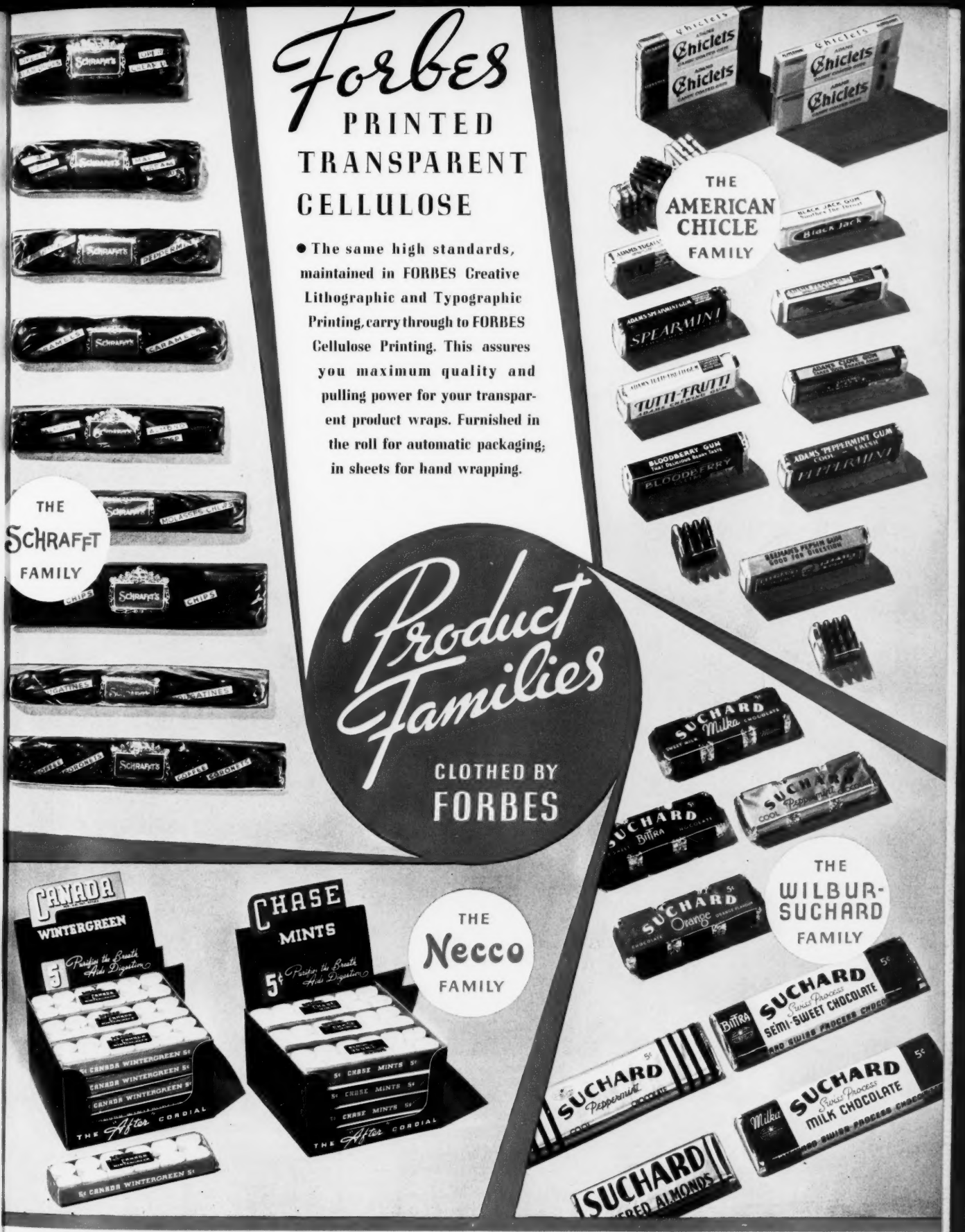

THE FORBES LITHOGRAPH COMPANY
P. O. BOX 513, BOSTON, MASS.

NEW YORK · PHILADELPHIA · ROCHESTER · CHICAGO · DETROIT · CLEVELAND

XUM

base color, this is known as an overtone and is laid on so that it shows only in the low spots of the grain, thus imparting a two-tone leather effect.

Artificial leather, because of its pyroxylin coating, is waterproof and can be washed; therefore, making it practically stain-proof. Being tough and pliable, it can be deeply embossed, making it the ideal wrap for de luxe or gift boxes where it is possible to simulate the appearance of leather cases, treasure chests, Venetian art work or bound volumes.

Boxes covered with artificial leather, naturally, are more expensive than ordinary paper covered ones but because of their rich appearance and wearing qualities are kept for other uses.

FABRIC coverings or linings have been advantageously used for decorative or re-use containers, for stock boxes and transfer files. These cloths, which have extensive application in the book binding field, are strong, wear resisting and will not pull out at the sides and corners. They may be hand applied or used on standard automatic or semi-automatic box covering machines.

These cloths in water-proof and vermin proof finishes, are available in a wide range of colors, embossings and designs, as well as in natural cloth finishes which take stamping perfectly.

ANTI-TARNISH PAPERS which are chemically treated are extensively used for the wrapping of silverware or for the lining of boxes in which sterling or plate is packed. Most of these papers are of the parchment type and range from a fairly heavy kraft to a tissue in thickness. Of very recent development is a special envelope or bag which is made up of a parchment outside and a transparent cellulose inner lining. The parchment carries on the heritage that silver is always wrapped in parchment and at the same time gives strength to the cellulose, which furnishes an air-tight feature.

Application of transparent cellulose. Wrapping with transparent cellulose or similar materials may be classified under three general divisions. These are divided as follows: Direct, direct with accessories and indirect, the applications of which may be seen in the accompanying illustrations. In each case the wrapping material may be plain or moistureproof, printed or unprinted or colored transparent cellulose may be used, depending upon the desires of the user. In some cases, there is a tendency to assume that a particular product can use only one of the general types of wraps. This is not always the case, as, for example, in the baking industry cakes are wrapped directly in transparent cellulose, also with the use of accessories and then overwrapped. Packages shown are by courtesy of Sylvania Industrial Corporation.

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SAMPLES OF OTHER TYPES OF FANCY BOX PAPERS FURNISHED ON REQUEST

XUM

Silray NUGGET EMBOSSED

Our experience and facilities enable us to produce this type of paper with an unusual brilliance and sparkle ordinarily obtainable only in tinfoil.

Available in 12 embossing designs. Base stock 32 lb., 20 x 26.

Stocked in 26 inch rolls. Also obtainable in other sizes in special making quantities.

Stellar Cretonne

Something new and different in a fancy box paper. It permits the creation of distinctive and attractive box designs.

Available in 9 colors. Base stock 26 lb., 20 x 26.

Stocked in 26 inch rolls. Also obtainable in other sizes in special making quantities.

Clearkote

The richness of crushed grain is brought out in this very distinctive line. It is a paper that does not mark easily, and it is attractively priced.

Available in 28 colors and 33 embossing designs. Base stock 26 and 32 lb., 20 x 26.

Stocked in 26 inch rolls. Also obtainable in other sizes in special making quantities.

Silvergloss TINSEL PATTERN

This is one of the newest creations in the Silvergloss line made by Marvellum. Note the extreme brightness of the silver. It adds greatly to the attention value of the finished package.

Available in 10 colors and many embossing designs. Base stock 26 lb., 20 x 26. Design runs with the grain.

Stocked in 26 inch rolls. Also obtainable in other sizes in special making quantities.

Rayon TRIPO-LURE FINISH

Possibly RAYON has been one of the most popular and effective lines of fancy papers. This shows one of the newest finishes created by Marvellum.

Available in 17 colors and 33 embossing designs. Base stock 26 lb. 20 x 26.

Stocked in 26 inch rolls. Also obtainable in other sizes in special making quantities.

Durowave

An unusual semi-waterproof paper made of very strong body stock, with sufficient durability for practically any type of box requirement.

Available in 8 colors and many embossing designs. Base stock 28 lb. 20 x 26.

Stocked in 26 inch rolls. Also obtainable in other sizes in special making quantities.

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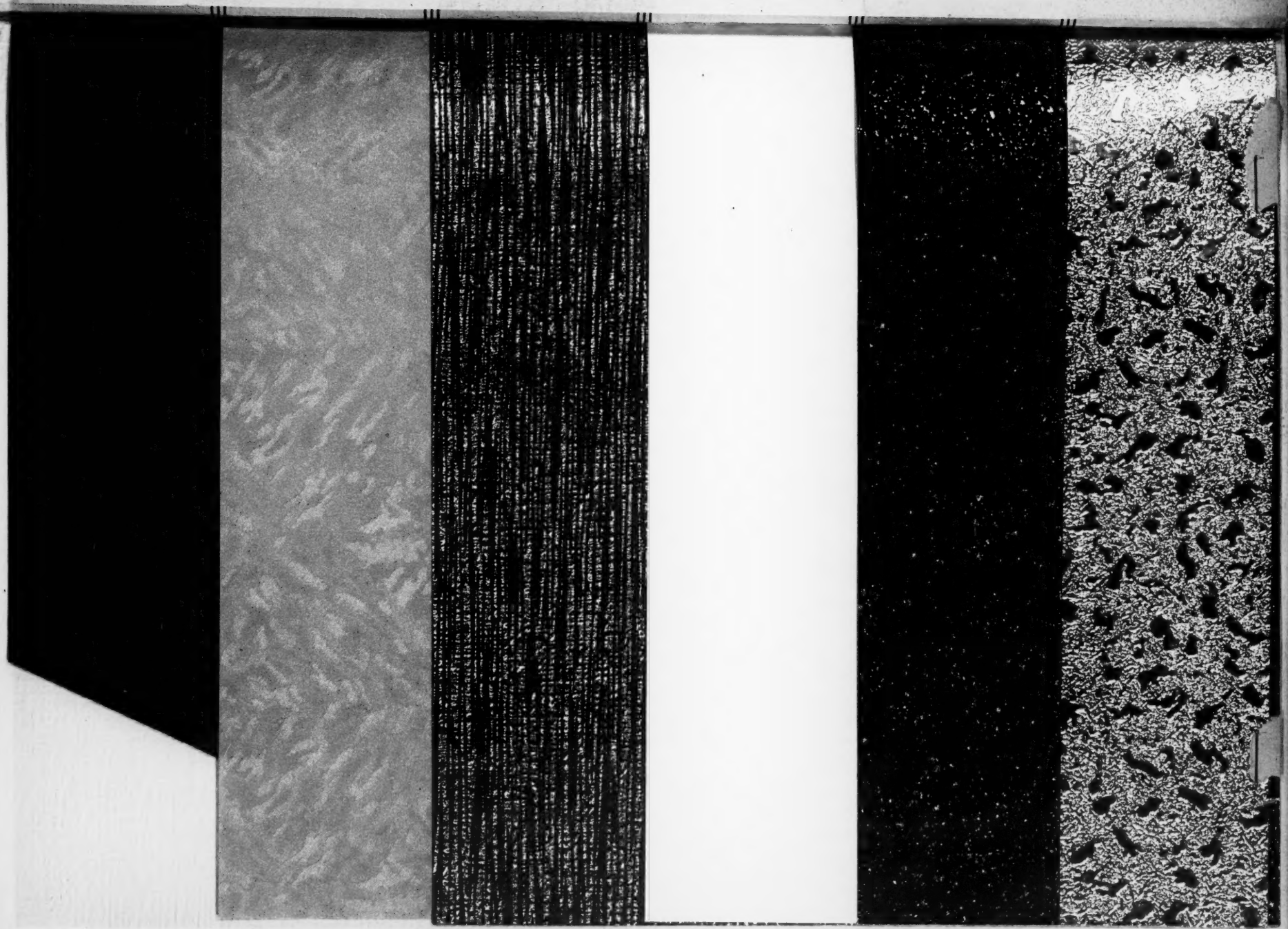
SAMPLES OF OTHER TYPES OF FANCY BOX PAPERS FURNISHED ON REQUEST



SAMPLES OF OTHER TYPES OF FANCY BOX PAPERS FURNISHED ON REQUEST

Distributors

Bradner Smith & Co.	Chicago, Ill.
Henry L. Goodman	Boston, Mass.
John Leslie Paper Co.	Minneapolis, Minn.
Holyoke Coated & Printed Paper Co.	New York, N. Y.
Hughes & Hoffman	New York, N. Y.
A. Hartung & Co.	Philadelphia, Pa.
Matthias Paper Corp.	Philadelphia, Pa.
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Orchard Paper Co.	St. Louis, Mo.
Blake, Moffitt & Towne	Pacific Coast
E. H. Wilkinson & Co., Ltd.	Toronto, Canada

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Printing Inks — Printing Machinery — Embossing Machinery — Raised Printing — Laminating and Coating — Varnishing and Lacquering — Metal Container Finishing

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XUM

INK IN PACKAGE MAKING

BY CARL E. FOSS

WHEN a printing ink is ordered in the production of a package, little or no consideration is lavished upon the innumerable functions expected of that ink. Yet it is unconsciously assumed that, for the producing of an attractive and durable package, the following qualities will be present. The ink must reproduce the design with a fair degree of faithfulness of both color and detail. The design and color must be proof against not only the action of the elements, such as sun, heat, rain, etc., but must also resist the chemical action of the packaged product itself. The ink must also have a definite affinity for the stock upon which it is applied. It must dry well, producing either a glossy or a dull finish in accordance with the requirements. Then, too often, it is expected to stand up even if the stock on which it is used does not.

This seems a formidable list of requirements for printing ink to fulfill. However, if proper cooperation between ink maker and ink user is had, inks which will satisfy most of these requirements can be made.

While proper design for a package is a complete subject in itself, the color reproduction feature of such design is extremely important. When a design is accepted, the reproduction is decidedly an engraving job.

PROPERTY TESTS OF COMMON PIGMENTS USED IN PRINTING INKS

Pigment	Indoor	Outdoor	Paste	Alcohol	Acid	Alkali
			Natural Inorganic Group			
Raw Umber	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Raw Sienna	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
			Artificial Inorganic Group			
Burnt Umber	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Burnt Sienna	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Cadmium Red	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
English Vermillion	Excellent	Good	Excellent	Excellent	Excellent	Excellent
Orange Mineral	Good	Poor	Excellent	Excellent	Good	Good
Chrome Yellow	Excellent	Excellent	Excellent	Excellent	Good	Poor
Cadmium Yellow	Excellent	Good	Excellent	Excellent	Excellent	Excellent
Zinc Yellow	Excellent	Poor	Fair	Excellent	Poor	Poor
Chrome Green	Excellent	Excellent	Excellent	Excellent	Excellent	Poor
Iron Blue	Excellent	Excellent	Excellent	Excellent	Good	Poor
Ultramarine Blue	Excellent	Fair	Excellent	Excellent	Poor	Excellent
			Organic Group			
Bismarck Brown	Fugitive	Poor	Poor	Fair	Poor	Poor
Maroon	Excellent	Fair	Excellent	Good	Excellent	Poor
Madder Lake	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Rhodamine	Fugitive	Poor	Poor	Poor	Fair	Poor
Rhodamine (Perm)	Good	Good	Excellent	Poor	Excellent	Good
Eosine	Fugitive	Poor	Poor	Poor	Poor	Poor
Lithol Rubine	Excellent	Poor	Fair	Good	Poor	Poor
Lithol Red	Good	Fair	Excellent	Good	Excellent	Poor
Scarlet Pulp	Fair	Poor	Poor	Excellent	Poor	Poor
Pigment Scarlet	Excellent	Fair	Poor	Excellent	Poor	Poor
Para Red	Excellent	Excellent	Excellent	Poor	Good	Excellent
Toluidine	Excellent	Excellent	Excellent	Fair	Excellent	Excellent
Red Lake D	Good	Fair	Excellent	Good	Poor	Good
Red Lake C	Fair	Fair	Excellent	Good	Excellent	Fair
Fire Red	Excellent	Excellent	Excellent	Fair	Excellent	Excellent
Permatone Orange	Excellent	Excellent	Excellent	Good	Excellent	Excellent
Orange II	Fugitive	Poor	Poor	Good	Poor	Poor
Hansa Yellow	Excellent	Excellent	Excellent	Good	Excellent	Excellent
Tartrazine Yellow	Poor	Poor	Poor	Excellent	Poor	Poor
Quinoline Yellow	Poor	Poor	Poor	Fair	Poor	Poor
Naphthol Yellow	Poor	Poor	Good	Excellent	Poor	Poor
Acid Green Lake	Fugitive	Poor	Poor	Good	Poor	Poor
Malachite Green (Perm)	Good	Fair	Excellent	Good	Excellent	Excellent
Brilliant Green	Good	Fair	Excellent	Good	Excellent	Excellent
Setoglaucine	Good	Fair	Excellent	Fair	Excellent	Good
Patent Blue	Fugitive	Poor	Poor	Excellent	Poor	Poor
Methylene Blue	Fair	Poor	Poor	Excellent	Poor	Fair
Induline Blue	Fair	Poor	Excellent	Fair	Good	Good
Indigo	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Alkali Blue	Excellent	Fair	Excellent	Poor	Excellent	Fair
Victoria Blue	Good	Good	Excellent	Poor	Excellent	Excellent
Methyl Violet	Fugitive	Poor	Good	Poor	Poor	Poor
Methyl Violet (Perm)	Good	Good	Excellent	Fair	Excellent	Excellent
Alizarine Purple	Fair	Poor	Poor	Excellent	Poor	Poor

However, the reproduction of the colors of that design is another factor. It is at this point that inks having characteristics in every respect suited to the job must be chosen. The pigments used in these inks should be so selected as to give, without sacrificing other properties, the best color approximation possible. It would be well to list some of the properties of the various pigments used in printing inks, thereby explaining the color limitations. While the compatibility of pigments with vehicles must, because of its complexity, remain a problem of the inkmaker, a general rule governing this may be stated as follows: Generally the natural earth pigments make inks of poor working qualities; the artificial inorganic pigments make inks of good working qualities, and the organic pigments make the finest.

The other characteristics of pigments are so distinctive that no general rule fits any case; the variation is so great that any attempt at correlation must be in table form with many descriptive terms to explain the relative degree of failure. Within reasonable limits, a table covering only general families of pigments with but certain important tests is all that is possible.

The pigments are divided into three definite classes: Natural Inorganic, Artificial Inorganic and Organic. The usual tests for such pigments are: permanency to light (showing both actual outdoor tests and indoor fadeometer tests), acid and alkali, alcohol and paste.

In the acid test a weak acid such as vinegar is used; in the alkali test a two per cent caustic is used. The alcohol test is for an exposure of short duration as in spirit varnishing, while the paste test is made by stroking a neutral paste over the printed areas. Other tests, such as wax, lard, water brine, baking and so forth, could be added as, with no limit set, property tests can go on indefinitely. In these tests the degree of bleed or failure is recorded in progressive terms such as fugitive, poor, fair, good and excellent.

While we have so far covered many properties of printing inks, there are others which are also important. If transparent inks are required to attain certain color effects with a minimum number of impressions it will be found that, if these points are gained, other characteristics may be lost.

All in all, suiting an ink to a job shows itself to be more of a problem than would be evident in a casual observance of the process. Although most calls for ink come to the inkmaker with almost no other data, he invariably takes it upon himself to find out as much about the job as is possible. With all this information on hand, the ink can be made correctly and the possibility of ink failure greatly diminished. Ink manufacturers are prepared to cope with these problems and extend every cooperation to manufacturers and users of packages.

AUTOMATIC PRINTING MACHINERY

BY ALFRED A. MORSE

THE DEVELOPMENT of automatic printing machinery for use in manufacturers' private printing plants has paralleled the development of other automatic machinery used in packaging operations. As designed today, such equipment fits into the plant production line and turns out printing as required, on a straight line production basis. The quality of the printing, as well as the cost, is under the complete control of the manufacturer using such automatic printing equipment.

Automatic printing machinery falls into two general classifications:

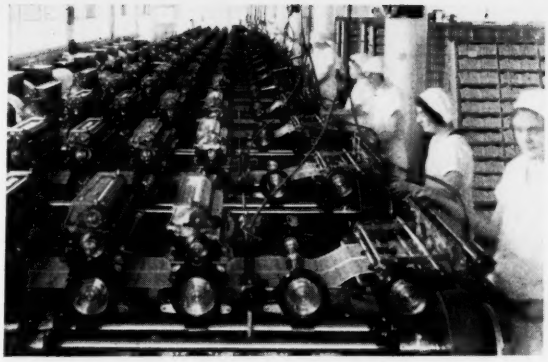
(1) Machines in which the paper is fed through in sheet form.

(2) Machines in which the paper is fed through in web form from a single continuous roll.

The first classification includes presses such as the Claybourn. This is a multi-color sheet-fed rotary press available in two sizes and designed to print in from one to five colors. These presses can be started quickly and operated at high speeds. While this type of press requires a fairly large amount of floor space, it effects considerable economies due to the high speeds at which it can be operated and the large size of the sheet which it will take. The manufacturers of this press also offer a five-color high-speed web label press which takes the paper in rolls, prints it and delivers it in web form.

The second classification includes presses such as the New Era and the Chambon printing machines. The first operates with an intermittent motion, the second operates continuously. As the paper comes to rest from time to time under the units of the New Era type of press, it receives successively the different colors from these units while the paper is at rest. After being printed it passes through the various special units such as the perforating, cutting, scoring, punching, etc.

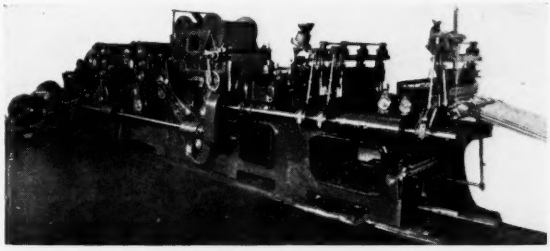
With the Chambon printing machine, the paper is furnished in rolls and travels through the press in a straight line. All printing operations are performed successively by cylindrical, chrome-plated bronze or steel plates good for as many as 100,000,000 impressions. All mechanical motions are rotary to avoid vibration and noise. Specially designed ink fountains



Chambon multi-color presses at a food packing plant

supply the ink. Any number of colors may be used and both sides of the paper may be printed at the same time. These machines can be adapted for high-speed letterpress printing, dry offset, or gravure and combinations of these methods can be effected. The same machine can be used for scoring, creasing, embossing, numbering, perforating, slitting and rewinding, sheeting, dieing out to shape and other supplementary operations such as lacquering and laminating.

The Chambon machine can be equipped with a standard unit to apply lacquer to the printed surface of the paper or board. This unit is mounted in line with the printing and fabricating units and is driven from a common shaft. The lacquer unit is of unique construction, extremely compact. It permits the use of lacquer of high solid content and eliminates considerable loss



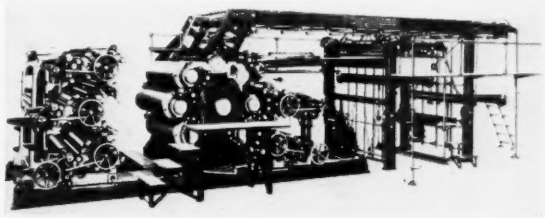
New Era printing press

of solvents. A large amount of lacquer is applied to the surface and then the excess removed by passing through two rolls spaced according to the thickness of coating desired. The printed web, after being coated with lacquer, passes through a dryer where heated air drives off the solvents and leaves a finished, dried coating. Upon leaving the dryer, the web proceeds to a cutting, die-cutting, or rewinding unit and the finished work is delivered ready for use.

The manufacturers of the Chambon machine have developed a method of applying transparent cellulose to paper or board. A standard machine, equipped with a laminating unit, can apply a sheet of transparent cellulose directly on the printed surface of paper or board in one continuous operation. Special adhesives have been developed to allow application over wet inks and to prevent wrinkling. Various materials such as glassine, parchment and book papers can be combined with other paper and boards according to the requirements.

THE PROBLEM of having available proper equipment to efficiently place upon labels and containers, designating information as to the contents of the package, has long been a difficult one to solve. To producers of merchandise that package that merchandise, and have to designate on the exterior of the package a thorough description of the contents, i.e., color, specifications of size, quantity designation, style number and a description, the following procedures available:

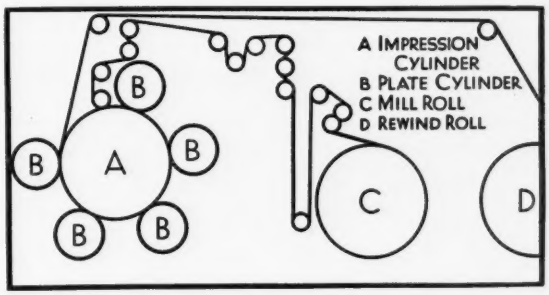
The hand written description, next the rubber stamp method soon followed by the hand operated metal stamp and, today, power driven combined printing and marking equipment.



Claybourn multi-color rotary press

To offset the investment expense of not only printed label stock of many varieties and the attendant problem of maintaining an even supply to meet the ever varying calls for different styles, sizes and colors, there has been made available, a sturdy and efficient device that will take a roll of gummed or ungummed paper and at the rate of 150 labels per minute, automatically feed, print, cut off and stack, sticker labels or regular labels. This same device instead of cutting off and stacking, will automatically feed, print, perforate and rewind at the above stated speed.

This device with its patented type carrying printing head provides the solution to the over and under stock problem of having available at extremely short notice, complete coverage on the type of label that describes the contents of containers.



U. P. M.-Kidder five color roll-to-roll arc-type press

Other devices for use in connection with placing of style numbers, color description, size and quantity designations on labels before they are attached to the container or after they are a part of the container, are now available. Various models according to the area of marking or printing requirements are available, power driven, for each operation.

"THREE POINT" PRESSES for printing all wrapper materials—transparent cellulose, waxpaper, glassine, foil, parchment, cardboard, gummed paper, etc.—may be roughly classified into, first, "arc" type and, second, "stack-type." "Arc" type construction has several plate cylinders grouped around a single impression cylinder; "stack" type has an individual impression cylinder for each plate cylinder. The advantage of multi-color printing on these presses is either high speed on long runs or the opportunity to "gang" a number of short runs, thus saving on machines, plates, power and maintenance.

Nine out of every ten bread wrappers, it is estimated, are printed on a "three point" press. The "stack" type prints a goodly share of them. Considering that the ordinary loaf of bread requires a wrapper 18 in. × 20 in., a 36 in. × 63 in. press printing four colors at a web speed of 30,000 ft. an hour turns out enough wrappers in sixty minutes for five thousand dozen loaves of bread. This same press can also be used for fancy papers, cake bands, box wrappers, certain types of labels, counter wraps and all sorts of printing taken from the roll and rewound. It may be operated as a one, two, three, four or five-color press; each color has a separate and complete inking mechanism, consisting of four 4-in. form rollers and the necessary distributors and vibrators. Separate color control makes it possible to divide the fountain for additional colors.

These presses are built in a variety of sizes and types, printing on webs of paper in widths up to 81 in. There are 75 sizes of "three point" presses for printing bread wrappers, roll wrappers or foil.

Now that it is possible to get a higher perfection of accuracy in printing plates, "arc" type construction has become popular for high-speed multi-color printing on wrapper materials. For example, a 24 in. × 36 in. all-size adjustable rotary prints between 6000 and 7000 sheets an hour up to six colors. The press is fed from a web and fly-delivers flat sheets collected in groups of five. Cutters may be set to deliver sheets in any length from 12 in. to 24 in. by ¼-in. variations. An additional roll shaft is ready whenever it is necessary to use an extra web for backing up, as when printing cellulose products or tin foil. A larger size, 36 in. × 48 in., prints two, three or four colors on novelty wrappers, delivering in single sheets to automatic lowering pile delivery at 5000 to 6000 sheets an hour.

Another new press recently installed is a three-color, single-impression offset press, which uses "arc" type construction, being web-fed and delivering to an automatic lowering pile. It takes a maximum size sheet 36 in. × 48 in. and has an all-size cut-off down to 20 in. Fountains, ink rollers, plate and blanket cylinders are all readily accessible for adjustment, change, makeready, etc.

LAMINATING, COATING AND EMBOSSING MACHINES

BY C. C. WILLIS

THE PARTICULAR TYPE of machine best adapted for laminating work will vary with the various materials to be combined and the adhesive to be used. In the packaging field the materials are generally boards with coverings of book paper, glassine, kraft, cellophane or foil, while the adhesives consist of asphalt, paste, silicate, lacquer or thermoplastics.

One of the earliest combining machines is that used for combining two or three ply of board with paste for making high grade Bristol boards and card boards. A snappier and firmer board is formed by pasting than the same thickness of board would be if made on a cylinder machine. Owing to the difficulty of driving the moisture through the board, generally not over three ply are combined at one time. A second pass with one or two additional ply added is generally used where more than three ply are required. For this work the machine consists essentially of a heavy set of chilled iron rolls for accurately metering the paste and pressing the plies together, the drying being done on a tier of cylinder driers. This type of machine is adaptable for either paste or silicate of soda.

In the combining of caddy board, commonly used for folding boxes and similar products, two or three ply of board combined with hot asphalt is used with outside liners consisting of book, kraft or glassine, fastened with paste or silicate. The use of one or two layers of asphalt in the center of the board provides excellent waterproofing qualities, while the outside liners attached with paste give the proper color and finish to the surface for appearance and printing. The hot asphalt in the center of the board also provides most of the heat, in an ideal location, to dry the paste or silicate liners and this combination will permit of

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- Packages
- Catalog and Booklet Covers
- Magazine Covers
- Car Cards
- Window and Counter Cards
- Calendars
- Wrappers
- Labels
- Menus

- Lacquer intensifies and brightens colors.
- It adds lustre.
- It is waterproof and washable.
- It withstands chafing and scuffing in shipping and handling.
- Lacquered surfaces do not stick together or become tacky.
- Lacquer resists fats, oils, acids, alkalies, and stains.
- It does not discolor white or darken with age.
- Lacquered surfaces are not easily soiled by dust, dirt, or fingerprints.

NOTE: This advertisement is coated with a lacquer coating containing Hercules Nitrocellulose. Nitrocellulose lacquer (often called pyroxylin coating) is a superior covering for paper and paperboard. It is applied by a simple coating machine; ordinary printing press methods cannot be used.

HERCULES POWDER COMPANY INCORPORATED WILMINGTON • DELAWARE

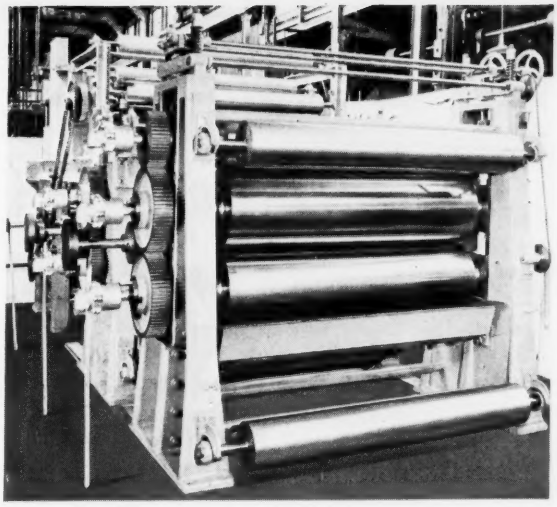
I AM INTERESTED IN NITROCELLULOSE LACQUER FOR USE ON_____

NAME_____ COMPANY_____

ADDRESS_____

FFF-7

XUM



Typical asphalt laminating unit for caddy board

speeds around 400 ft. per minute. To obtain these speeds particular care must be used in the design of the asphalt units to insure a thin coating of asphalt, generally running about 10 lbs. to the ream, and the application of this coating to the board without reducing the caliper of the board.

The paste or silicate units are designed for a uniform and minimum application of adhesive with provision made to eliminate expansion wrinkles in the cover stock before combining. Calendering and waxing operation is sometimes provided, also drying and cooling means, after which the caddy board is generally passed directly to a sheet cutter which trims and cuts the board into flat sheets, ready for the printing operation.

The rapid increase in the use of transparent cellulose and metal foils in the packaging field, with the development of lacquer, latex and thermoplastic adhesive for use with these materials introduces still more conditions to be met in laminating these materials with paper or fabric. In the case of the transparent cellulose materials it is essential that the adhesive be applied in a smooth, thin coat without ribbing, as ribbing or other defects in coating will show through the cellulose and spoil the effect of the lamination. Similar principles apply in foil lamination but other conditions enter here due to the rapid expansion of foil on application of heat, which must be guarded against, particularly in the use of thermoplastic cements.

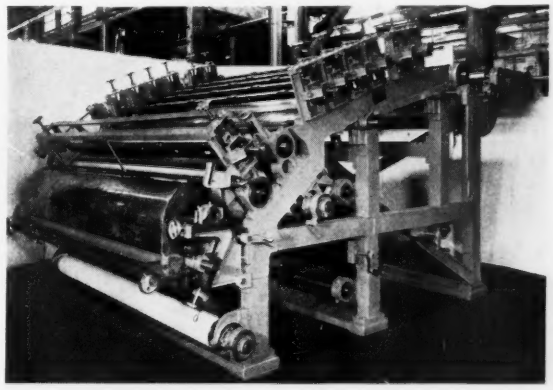
Coating Machines

In the packaging field the principal interest in coating machines is in brush coaters, roll coater and reverse roll, although knife coaters are used to some extent in the decorative paper field. The principal use of brush coaters is in the clay coating field as practically all clay coated papers are made on brush machines. On a standard arch bed machine the color is applied to one side of the web of paper by a cylindrical brush. The machine is equipped with seven flat brushes which oscillate across the sheet and spread the color uniformly over the web. A suction belt follows the brushes and holds the paper taut while passing under the brushes. After coating, the paper is festooned on long automatic racks, where it is dried to between five and six per cent.

In addition to the paper coated one side only, a large quantity of paper is clay coated on both sides on what are known as double coaters. Here the color is applied to both sides of the paper by a roll application. The paper then passes between two banks of brushes, one bank of six brushes above the paper, the other bank of six brushes below the paper. All the brushes are oscillating on the paper, the top and bottom brushes in all cases moving opposite to each other and smoothing the color. The paper is then floated on an air blast for a distance 150 to 175 ft. until the lower side of the sheet is sufficiently dry to festoon without marking the paper.

Straight roll coaters are used in the packaging field largely for the coating of gum papers, such as gum labels, gum tape and stay papers. The gum is metered by a pair of accurately ground chilled iron rolls. The web then passes under a smoothing roll to smooth out the fine ridges left in the gum by the roll application. The paper then passes around an arch and drum driers, where it is dried by the application of hot air to the gum surface. Depending upon the design of the drier, the speed will be from 200 to 400 ft. per minute.

The development of the quick drying nitrocellulose lacquers has forced the development of an entirely different type of coater as neither the brush nor roll type can be satisfactorily used with quick drying lacquers. Owing to the speed of drying the lacquer quickly dries on the brushes, causing hard lumps which mark and spoil the coating. If the usual roll application is used the material sets too quickly to permit the ridges to flow out or the use of a smoothing roll.



Standard arch bed coating machine

To overcome these difficulties a reverse roll coater has been developed. This consists of a three roll head, all rolls running in the same direction or reverse to each other at their control points. By proper combinations of speed and opening, a smooth, uniform coating can be formed on the transfer roll, which transfers the coat-

XUM

ing to the paper without ridges or marks. This unit is essential for lacquer coating in the decorative paper field, such as gold, silver colored, or lustre effects with lacquer vehicle, or for the application of a clear, transparent high gloss lacquer coating.

Embossing Machines

Embossing is the art of fashioning a surface by raising or depressing a figure or design by the use of pressure. This may be accomplished by several methods. The most simple method is to use a metal stamp On the stamp or die is cut the required design. This may consist of cutting the surrounding metal away from the raised portion of the design so that when the die is impressed on the material to be embossed, this raised surface will press the material down at these points so that the design will be in relief on the under side. The material must, of course, rest on a support underneath, either of metal with depression cut so as to exactly coincide with the raised portion of the die, or it may be of some soft material that will allow the die to press the embossed material down into it. This is the whole principle of embossing, yet wonderful results are accomplished from elaboration of this simple principle.

Many kinds of embossing are still done with the flat embossing press, such as metal embossing, stationery, name plates, and in general, anything in sheets which may only be embossed on a part of the sheet. There are some materials required to be embossed in the sheet as well as the web, which requires tremendous pressures and a long period of "dwell." On such materials the flat bed embossing press is used. For many uses, however, the flat embossing press is limited. The most serious objection to a press of this kind is the very slow speed at which the material can be embossed. It was to meet the ever present demand for speed that the roll embosser was designed. The results obtained from such an embosser are best illustrated by the beautiful embossed wall papers, fancy paper, artificial leather, paper napkins and such other processed materials now on the markets.

The roll embosser operates on the same general principles as the flat bed press, but the design is engraved on the surface of a round steel roll rather than on a flat metal plate, which is the case in the use of a flat press. The goods are carried through between the engraved steel roll and another roll used as a support. This supporting roll may be another steel roll engraved exactly opposite or negative to the top roll. The two rolls are geared so as to exactly mesh into each other.

A more common and general way is to have one engraved roll and to have the supporting roll made of a softer material so that the goods or fabric to be embossed is pressed down into it by the engraved roll. The softer, or supporting roll is made of pressed paper and is generally called a paper roll or paper bowl. The steel and paper rolls are mounted on a frame in bearings and in most cases are geared together. Either steel or paper roll is mounted in a fixed position, the other roll being adjustable so that it may be brought to bear on the fixed roll with varying pressures.

The material to be embossed is fed in between the steel and paper rolls, similar to a wringer, and the raised portion of the steel roll presses it down into the paper roll. When the rolls are properly synchronized the design on the steel roll will fit exactly into these depressions in the paper roll at each revolution.

The use of two steel engraved rolls is only justified when the design calls for a sharply raised and depressed portion on both sides and then only for very simple designs. It is obvious that to engrave a male and female pair of steel rolls to exactly fit is a costly and troublesome task. It will, therefore, be seen that the combination of a steel engraved roll and a paper impression roll is the most practical and usual arrangement.

There are three general classes or types of embossing which can be accomplished by the use of a roll embosser. Namely, these are regular, ink and two-toned embossing effects.

Regular embossing is the term applied when using an embossing machine having a steel engraved roll and a paper impression roll running exactly in register with the engraved roll. With this type of embossing the design shows in relief on the under side of the material. This class of embossing is sometimes called male and female embossing. Ink embossing is the term applied when embossing and inking are done in one operation.

Ink embossing is accomplished by mounting an ink fountain on the embossing machine frames in such a manner so that the ink distributing roll contacts the surface of the steel engraved roll. In this manner the ink is deposited on the high or raised portions of the design on the steel engraved roll, which in turn, as the material passes through the nip of the embossing rolls, transfers the ink to the low or depressed portions of the embossed material. With the use of an ink embossing machine some unusual effects can be secured.

Two-toned embossing is the term applied when using an embossing machine equipped with a steel engraved roll which is heated by steam or some other means, and a paper roll which is not a direct repeat of the steel roll. In this way the design on the steel roll does not make any impression on the paper roll as the design repeats in a slightly different location at each revolution of the roll. The material when embossed is, therefore, held against a flat surface on the underside, and the steel roll causes only a slight depression on the material. The heat of the steel roll causes a slight discoloration and ironing effect to the portion of the material contacting the raised portions of the steel engraved roll, thereby resulting in a two-toned effect on the material as processed. This class of embossing can be accomplished on a regular two roll embossing machine although in some cases it is desirable to use a special type three roll embossing machine which has been developed especially for this class of work.

Embossing machines are furnished to handle the material either in a continuous web or in sheet form, depending upon individual requirements.

THE *Fine Feathers* GIVE PERFECT PROTECTION

The beautiful bird pictured above owes his beauty to his fine feathers. But this beautiful plumage has a more important function than mere beauty . . . It protects the bird . . . So it is with EGYPTIAN PAPER COATING LACQUER. It beautifies as well as protects whether it is used on labels, booklets, packages, cartons, magazines, or displays.

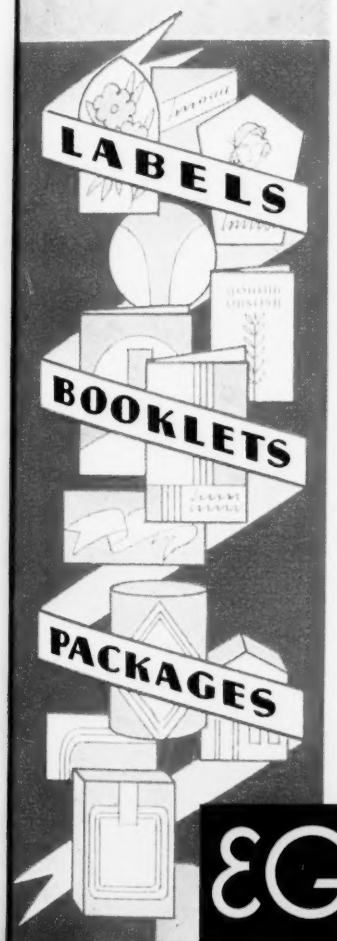
EGYPTIAN PAPER COATING LACQUER is a hard, glossy, and flexible finish for all types of paper or board. Some of its benefits may be summarized as follows: A crystal-clear protective film . . . Withstands chafing and scuffing . . . Resists fats, oils, acids, alkalies, and stains . . . Waterproof and washable . . . Not easily soiled by dust, dirt, or fingerprints . . . Does not soften, or become tacky . . . Intensifies and brightens colors . . . Does not discolor white areas, or darken with age.

EGYPTIAN PAPER COATING LACQUER is formulated for application by regular roller-coating machines; such as are used to apply ordinary spirit varnish.

We invite your inquiry for further details

THE EGYPTIAN LACQUER MANUFACTURING COMPANY
90 WEST STREET, NEW YORK

This insert is treated with one coat of EGYPTIAN PAPER COATING LACQUER



EGYPTIAN LACQUER

HB
LHButtler

XUM

the Trend is toward
LACQUER-COATED PACKAGES
here's why

LACQUER IS MOISTURE-PROOF.
LACQUER IS GREASE-PROOF.
LACQUER IS SCUFF-PROOF... RESISTS WEAR AND TEAR.
LACQUER REPELS DIRT, GRIME AND INSECTS.
LACQUER IS WASH-ABLE...UN-AFFECTED BY SOAP AND ALKALIS.
LACQUER DOES NOT DISCOLOR ...NO YELLOWING FROM LIGHT OR HEAT.
Lacquer adds brilliance and beauty... gives the package greater attraction... accelerates sales.
Lacquer preserves both product and package... keeps them "factory-fresh."
Lacquered packages are convenient. No additional wrap to apply. No annoying "extra" wrap to open.

These are the reasons why the trend is toward packaging with lacquer-coated papers, foils, and cartons.

Lacquered packages reach the hands of the consumer in factory-fresh condition . . . leaving in the hands of distributors and dealers no soiled goods, no shelf-worn merchandise.

COMMERCIAL SOLVENTS CORPORATION

230 PARK AVE., NEW YORK, N. Y.

THE STATUS OF LACQUERED PAPERS

BY CHAS. E. FAWKES

IT IS IMPOSSIBLE for anyone vitally interested in packaging to be unaware of the large and increasing use of lacquer upon paper. This use takes many forms. It attracts attention because it seems new. In fact, it is not as new as it seems.*

Within seven years after Maynard introduced "collodion" into medicine, an English patent to Cornides in 1855 describes a liquid for coating paper, leather, fabrics, etc., with "soluble cotton" dissolved in wood spirit, pyroxylin spirit, or alcoholized ether. In 1867 Parkes gives in an English patent a formula for making a paper lacquer which is perfectly operable by present day standards. Yet, outside of a few specialized fields, lacquered papers, paper lacquers, and paper lacquering processes attracted little attention prior to 1930.

In the succeeding five years, however, the importance of this field has increased immeasurably. Now almost every periodical devoted to the trend in packaging technique carries examples of lacquered labels, lacquered cartons or lacquer films of some sort for protecting and maintaining some critical equilibrium necessary in packaging. Lacquer is alleged to be readily adaptable to all kinds and classes of papers. In its very versatility lies its great appeal; and, paradoxically, here lie also the elements of confusion.

Why all the sudden interest? Why does the old seem new? What new and useful properties have recently been acquired by lacquer, and how? For a half century Copal spirit varnishes have been used to finish and protect paper; why are they suddenly found to be inadequate? Or are they really? Is lacquer better? Is it enough better to be worth more? If so, why and how much more? Where should lacquer be used? Not used? How about overprint varnish? Is it functionally equivalent? Surely, these questions and others must puzzle the package designer, the sales manager, the production man, the retailer and the consumer.

Now, the answers to these and other related questions are obscured by certain variables. These remarks will attempt to deal with some of the variables in such a way as to enable those interested in packaging to make a fair evaluation of the present status of lacquer as applied to paper, and where it is likely to lead.

First, it is not thoroughly understood that paper itself is a widely variable structure. From the standpoint of lacquer application, there is as much difference between a piece of glassine paper and the paper upon which this article is printed as there is between wood and metal. Let us, for a moment, examine these differences, ask how they arise and what is to be done.

An ordinary piece of bond paper is essentially a porous mat of wood and/or other vegetable fibres which has been formed by first suspending the individual cellulosic fibres in water and then allowing them to settle down helter-skelter as the suspending water is withdrawn. This wet "mat" is dried and so becomes what we know as paper. In the preparation of the cellulosic fibres for bond or book paper conditions tending to give hydration or gelatinization of the cellulosic fibres are avoided. Now, such bond papers are exceedingly permeable to the penetration of organic liquids, e.g. varnishes, lacquers, or overprint varnishes. This fact has been known for years. No experienced finisher attempts to spirit or overprint varnish them. Therefore, it is quite surprising to see many attempts, at present, to coat such porous papers with lacquer. Papers of this class would not be attempted with conventional varnishes. Yet, because a new material, lacquer, is being proposed for coating, old and well-known principles are frequently overlooked.

By contrast, consider for a moment glassine paper. Conditions are set up in the glassine paper mill producing as much gelatinization and hydration of the paper fibres as is possible. Such a sheet, after formation upon a paper machine, is known at this intermediate stage as mechanical grease-proof paper. Unlike open unhydrated bond papers, organic liquids do not permeate such a paper structure to any extent even at this intermediate stage. Like bond paper, we have a mat of cellulosic fibres, but the interstices of this paper are filled with gelatinous (exfoliated) material which has been developed by the special hydrating and beating process. To make glassine from this intermediate paper it is dampened with water and super-calendered on polished rolls with heat and pressure until translucent glassine paper is formed. The final glassine, in addition to possessing the property of being impermeable to organic liquids, has much greater density and surface smoothness. Such a sheet of glassine paper, therefore, retains a lacquer film upon its surface without absorption and without becoming saturated with lacquer sol-

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* The early appearance of paper lacquering in the chronology of the cellulose plastics is shown in the following table:

1845—Schönbein first makes and recognizes nitrocellulose.
1848—Maynard introduces "collodion" into medicine.
1851—Scott Archer introduces the collodion process in photography.
1856—Parkes recognizes the cause of "blushing" and makes "dry" wood alcohol.
1856—Peller makes the first permanently "soft" film with castor oil.
1857—Hoffmann describes the first bronze powder lacquer.
1867—Parkes gives a working formula for a paper lacquer.
1870—Hyatt brothers epoch-making "celluloid" process—camphor used, and first conception of true plasticizers given.
1882—Stevens' use of amyl acetate and the beginning of satisfactory anhydrous chemical solvents.

SEE THE SHERWIN-WILLIAMS FINISHING ENGINEER

This insert is coated with a new chafe resisting Sherwin-Williams finish recently developed in our laboratories. Test it yourself by folding over and rubbing. Notice its velvet, non-glaring qualities: its transparency and lack of color. Samples on request.

LABEL FINISHES

To pep up the colors on your labels; to impart a rich, glossy sheen that beautifies; and to form a protective film which prevents smudging, scarring and loosening of labels is the duty of S-W Chafe-Proof finishes. They are available in types to fit your production schedule and to meet your exacting demands.

CARTON FINISHES

These finishes form an integral part of the package—to beautify and protect it. Vivid colors become more vivid. Moisture is guarded against, and a glistening bright quality is added to the finished carton giving it the appeal that increases sales. S-W engineered finishes are at your service. So too, are the S-W finishing engineers.

FOIL FINISHES

Flexibility is the keynote. S-W Flexible Lacquers represent the most advanced developments in this growing field. They are formulated to withstand severe crinkling, folding and cutting, and to enhance the beauty of the foil.

FANCY PAPER FINISHES

A line of clear and pigmented lacquers and varnishes to meet the many requirements. S-W finishing engineers and the S-W laboratories will gladly work with manufacturers on new effects and new finishing processes.

MAGAZINE COVER FINISHES

Magazines in large numbers are swinging to varnished and lacquered covers. Smarter appearance; greater color brilliance; increased strength; greater tear resistance; no soiling and scarring. For the advertiser, it also increases attention value. S-W Chafe-Proof finishes are outstanding leaders in this field.

SHERWIN-WILLIAMS PAPER FINISHES

XUM

COLLAPSIBLE TUBES

Used the nation over, S-W Collapsible Tube Finishes and Clear Lacquer coatings are pre-eminent because of their remarkable adhesion, flexibility over a long period of time, and their clean, permanent colors. S-W Tube Lacquers do not flake or chip, and are recommended to protect coating and printing from alkali, etc.

SANITARY FINISHES

As yet no all-purpose Sanitary Lacquer is available. Sherwin-Williams manufacture individual Sanitary Lacquers to meet individual requirements, depending upon the nature of the food or product for which the container is designed. Besides the special properties, they are all designed to stand fabrication.

LITHOGRAPH CAN FINISHES

The demands placed upon these finishes have increased as the use of cans for new items has developed. And from the manufacturer's standpoint it has been necessary to speed up the drying time, as well as maintain the ability to resist the marring and chipping effects of fabrication. S-W Lithograph Enamels are the result of years of experience and pioneering in this difficult field.

CAP COATINGS

Even more than can finishes, cap coatings are subjected to the most severe tests during fabrication and in service. They must withstand crimping, deep drawing and abrasion. The coatings must also withstand the action of the product contained in the can or jar. S-W Cap Coatings are designed to be applied with a coating machine. They are clean in color, smooth in finish, and easy handling.

DRUM and PAIL COATINGS

S-W Drum and Pail Coatings are also designed to meet the individual requirements. For example, drum head coatings for alcohol drums must not be affected by alcohol. The increased use of metal packages for food products to a large extent has been made possible by the development of Sanitary Lacquers with the necessary requirements. See Sherwin-Williams Spraying Enamels, Coating Enamels, Drum Head Enamels, and Sanitary Finishes for use on drums and pails.

SEE THE SHERWIN-WILLIAMS FINISHING ENGINEER

This insert is coated with a new chafe resisting Sherwin-Williams finish recently developed in our laboratories. Test it yourself by folding over and rubbing. Notice its velvet, non-glaring qualities; its transparency and lack of color. Samples on request.

SHERWIN-WILLIAMS DECORATING FINISHES

XUM

LEVEY

Printing and Lithographic

INKS

THE SIGN OF QUALITY

PRINTING

AND

LITHOGRAPHIC

INKS

FRED'K H. LEVEY CO. Inc.

59 BEEKMAN ST.
NEW YORK OFFICE

1223 WASHINGTON AVE.
PHILADELPHIA, PA.

ESTAB.
1874

222 44TH STREET
BROOKLYN, N. Y.

221 E. CULLERTON ST.
CHICAGO, ILL.

BALTIMORE, MD.
BOSTON, MASS.
NEW HAVEN, CONN.
CLEVELAND, OHIO

REPRESENTATIVES IN

CINCINNATI, OHIO
BUFFALO, N. Y.
LOS ANGELES, CAL.

SAN FRANCISCO, CAL.
SEATTLE, WASH.
THROP-HAMBROCK CO., LTD.
MONTREAL, CAN.

vent. It has properties which are ideal for lacquering.

At this point should be mentioned one of the most common misapprehensions regarding paper. This is "sizing." It is erroneously believed by many that sizing of paper makes it impermeable to organic solvents. This is not true. The principal object of sizing paper is to make it water resistant and non-disintegrating when wet with water. The presence or absence of size is of minor importance in determining whether lacquer, varnish, etc. are retained on the surface or absorbed.

The class of coated papers should not be confused with either porous bond and book papers, on the one hand, or with hydrated or parchmentized paper on the other. The purpose of coating paper with some pigment bound with casein, starch, gelatine, albumin, etc. is to achieve upon the top surface of absorbent paper an impermeability approaching that possessed by glassine. (The method of securing it is, of course, entirely different.) Many kinds of coated paper are available, the most important being the "litho" papers, primarily designed for lithography. Litho papers vary widely in grade, and in turn these variations represent great differences in the ratio of starch or casein binder to the inert pigment used, as well as in the pigment itself. It is quite obvious, therefore, that among coated papers there is wide variation in permeability.

Finishers and varnishers have learned from years of experience that certain grades of coated paper retain spirit varnish films much better than others. They recognize that a No. 1 litho sheet is decidedly better than a No. 2, a No. 2 better than a No. 3, etc. Such specially rolled or calendered papers as "brush finished enamel," "flint coated," "varnishing lithos," all have superior impermeability, not because of hydration as in glassine, but due to the characteristics of the "coating" such as its denseness and smoothness.

So far our consideration of paper as a variable should indicate to the reader that four properties possessed by papers in general to a greater or less degree determine the suitability of a given paper for lacquering. These four properties are:

1. Degree of hydration
2. Denseness (or surface compactness)
3. Smoothness
4. Presence or absence of "coating" and the nature thereof.

On the basis of this loose classification, let us see if we can make a list of commonly encountered forms of paper and divide such forms into two columns:

Easy to Lacquer	Hard to Lacquer
Glassine	Bond paper
Mechanical grease-proof	Poor litho paper
Vegetable parchment	Machine finished (M.F.)
Regenerated cellulose foil	Rotogravure
Vulcanized fibre	Shrink on
Good litho sheets	Tissue
Enameled papers	Kraft
Supered litho sheets	Offset
Flint coated	Crepe
Varnishing litho	News
Starch coated	Blotting
Dextrine coated decalcomania paper	Wall paper
	Chip board
Glassine lined box-board	Straw board
Parchment lined box-board	Solid news board
Clay coated box-board	Solid Manilla
Litho lined box-board	Solid Sulphite
Patent coated*	Jute

* Not really coated in the sense that this paper considers coating.

There are, of course, scores of grades of paper omitted from this list. Furthermore, in between these two classifications, there exists an indefinite zone containing grades of paper which are not conspicuously good or bad. In general, such papers are varieties which are inherently absorptive, but which, due to certain special operations such as super-calendering, water finishing, etc., have had their absorptiveness decreased. Practically all of the super-calendered and water finished papers can be disposed of in such an intermediate classification. In work on labels, cartons, wraps, and the like, the second important variable is printing ink. There are certain real variables in printing ink which the lacquer man has learned to his sorrow. First, in printing on papers which are to be subsequently lacquered, inks should be free of paraffin,† waxes and non-volatile petroleum oils. Second, inks should contain, as binder, oils which are definitely drying oils, and the ink impression should be capable of being oxidized and/or polymerized to the point where the dry ink film is insoluble in the lacquer solvents. Third, requisite time should be allowed and/or fanning operations carried out to assure that the film of ink shall have reached this insoluble condition before the lacquering operation is commenced. Fourth, inks should be free of soluble organic toners such as crystal violet, toluidene red, etc., which are leached out of even a thoroughly dry ink film by the extractive action of lacquer solvents. Fifth, the inks should be free of large quantities of inert flatting agents (barytes, alumina, kieselguhr), which might decrease the glossiness of the lacquer film by protruding through its top surface when dry to give diffuse reflection.††

The third important variable is that of the lacquer itself. It is unfortunate that the word lacquer should connote a definite product to most people. "Lacquer" is in fact a generic term like metal. Even in a field of relative narrowness such as paper coating it is formulated in widely different ways. We have already said it is possessed of great latitude. To use this latitude most effectively we have seen so far that it is necessary to know the properties of the specific paper and ink over which it is to be applied and to formulate it and apply it accordingly.

In the simplest possible terms a lacquer is essentially a soluble derivative of cellulose dissolved in a suitable

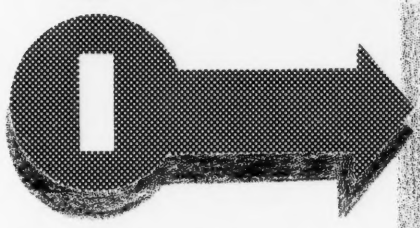
† This eliminates the Grammer spray or other paraffin "offset" preventatives. The Paasche device uses hydrolized starch and gives no trouble.

††Lacquer inks dissolve in subsequent lacquer coating operations and therefore are avoided for this class of work. On the other hand, they are quite generally used to print "all over" lacquered paper surfaces, for obvious reasons. Intaglio and rotogravure inks are not considered here because they are used on types of paper unsuited for organic soluble lacquers. They give no trouble with the water emulsion lacquers discussed later in this paper.

XUM

Two Outstanding Factors

in producing this package



GAIR CARTONS, INC.

This organization—skilled in large scale production of high-class folding cartons—recommends and uses Hi-Gloss overprint varnish . . . for increased sales appeal and protection against rough treatment in transit and store. The attached box is a regular job—just as turned out in production every day by Gair.

HI-GLOSS OVERPRINT VARNISH

A thoroughly established product in use by most high-class carton manufacturers. It is standard in the trade, giving real protection to the box as well as a smooth brilliant luster. Write us for samples and prices.

POPE & GRAY, Inc.

333 HUDSON ST. • NEW YORK CITY

solvent, or solvent mixture. Generally, in addition to the soluble cellulose there are dissolved in the solvent two different kinds of modifying agents. To make the cellulosic film adhere to the paper upon which it is applied a resin is commonly used as one of the modifying agents; but since the incorporation of the resin with the cellulose compound causes the film to become brittle, a third modifying constituent called a plasticizer is added. Now these three components may be still further varied within their own class. For example, one of the principal cellulosic compounds used is nitrocellulose. This substance is available in many different viscosity and solubility grades, each possessed of somewhat different properties. Or instead of nitrocellulose, cellulose acetate, or other derivatives of cellulose may be used. The resinous constituent may be one or more resins either natural, modified, or purely synthetic. Still further variations are produced in the plasticizer component of which probably thirty different chemical entities are in daily use.

The result of varying these many constituents, the method of incorporating them, etc., enables the formation of protective and decorative coatings upon paper varying all the way from very hard to very soft, from brittle to distensible, from glossy to dull, from transparent to opaque, from stiff to pliable, etc.

In contrast to a simple resin solution such as a spirit varnish coating, it is possible to produce in a lacquer film such unusual properties as washability, impermeability to moisture vapor, low rates of air transfer, resistance to abrasion and scuffing, total absence of color in the film, total absence of smell or taste, stability against yellowing upon exposure to light and heat, sparness,* resistance to water and alcohol, greaseproofness, permanent flexibility, freedom from heat blocking, ability to heat seal, resistance to soaps and alkalis, etc.

It is not always possible to make all such special properties predominant at the same time. Yet the paper lacquer chemist is justly proud of such apparently paradoxical lacquers as "heat-sealing—non-heat blocking,"—"hard—flexible," or "transparent to visible light—opaque to ultra violet," etc.

One of the most desirable commercial advantages arising out of lacquer coating of paper comes from the fact that lacquer is essentially a synthetic, domestic material. The important raw materials that enter into lacquer making are produced within the borders of the continental United States. Being essentially synthetic in nature, it is independent of the oriental deposits of resins. Therefore, lacquer is not concerned with "blending" or "aging" and other such expedients. In fact, these "controls" are necessary in varnishes because of variation in grade and because of the gradual depletion of the known available deposits of resins in the East Indies. Therefore, the ease with which a given grade of lacquer can be perpetually reproduced is very striking by contrast with the situation in the preparation of spirit varnishes.

* Resistant against turning white.

So far the discussion of variations within the lacquer has been confined to the non-volatile materials which are left behind to form the film. In addition to these variations many further differences in properties, particularly affecting the conditions of application, can be imparted to lacquers by varying the composition of or the amount of the liquid solvents. For example, differences in porosity of a given paper* causing some absorption of the lacquer film during drying may be overcome by decreasing the proportion of solvent, thereby raising the viscosity of the lacquer to a point where the liquid lacquer will not penetrate the paper† Or, assume that a job has been printed with an ink containing one of the previously mentioned soluble "bleeding" toners, it is frequently possible to "save the job" by the selection of specific solvents which will not dissolve the offending constituents. In the preparation of lacquers for use upon cartons for food-stuffs, wrappers, bags, printed booklets, enclosures, etc., it is possible to so formulate the volatile constituents of the lacquer that even though the paper structure becomes saturated with solvent, the paper does not become tainted with solvent odor. In fact, it may be stated quite uncompromisingly that it is now possible to produce lacquers for use in connection with the packaging of foodstuffs which are superior to both spirit varnish and overprint varnish with respect to retained solvent and odor of the film.

Perhaps the most interesting variation in solvent which the lacquer industry has seen since Stevens' introduction of amyl acetate is the so-called water emulsion[1]. In view of the sensitivity of ordinary lacquers to atmospheric moisture, the water emulsion lacquer seems almost a contradiction. Briefly, an organic soluble lacquer is prepared and then by means of certain special chemical processes this liquid lacquer is dispersed as minute microscopic particles in water.

Lacquering processes and machinery are interesting from a chronological standpoint. When Parkes gave his first paper lacquer formula in 1867 three important methods of applying any kind of coating (lacquer included) were very old indeed—the paint brush, the knife edge, and dipping. As early as 1855 a special lacquered paper is described by Kuhlmann[2] who used pyroxylin cement to fasten wool dust or cotton flock to produce "velvet" or "plush" paper for box covers. Ely[3] described a lacquer which might conceivably be used for moisture-proofing paper.

Carpenter in two patents[4] describes the first commercial process for the production of enameled paper. In this process wood pulp and celluloid were beaten up together, formed into a sheet, subjected to the action of the solvent and calendered to a glossy finish. In an attempt to accomplish the same end, Edson in 1883 describes both a mechanism for coating paper with lacquer[5] and a process for laminating celluloid[6] to paper by means of solvent and pressure which resembles, in many respects, the present process of laminating

* Assuming that it takes a type of paper which is suitable in the first place.
† This is equivalent to using a high viscosity paper lacquer.

The Sunny Side of the Sheet

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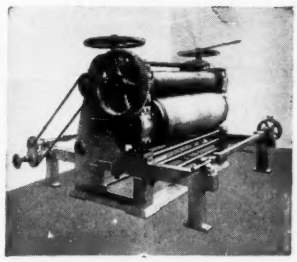
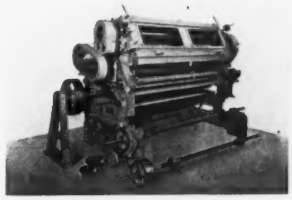
WALDRON MACHINES
OVER A CENTURY OF EXPERIENCE
BUILDING PAPER CONVERTING MACHINES
SINCE 1827



"Centennial" Embossing Machine

EMBOSSING MACHINES
LAMINATING MACHINES
COATING MACHINES
and DRYERS
WAXING MACHINES
CELLULOSE BAG MACHINES



Waldron Lacquer Coater

Embossing Machines

Waldron Embossing Machines are built in a wide range of types for producing desired effects on any material with roll embossers. Each machine rigidly built and correctly designed and proportioned with respect to the important factors of speed, pressure and tension for particular requirements. Waldron machines will produce an almost unlimited variety of distinctive designs and embossed effects.

Waldron Embossing Rolls

Waldron Embossing Rolls provide a longer life due to the use of carefully conditioned paper in their construction and their harder, more even surface. Carefully proportioned shafts and heads. Waldron Rolls can be relied upon to give many extra service hours and to reduce rolls costs.

Paper Bag Machines

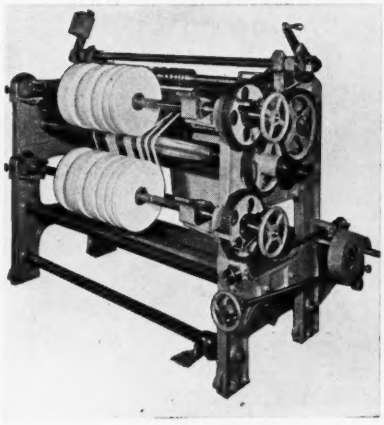
Roto Simplex bag making machines for super speed work. Complete rotary operation supersedes the conventional beater or striking bar and eliminates dust, noise and facilitates higher speeds. Finely serrated cutting and no tendency to tear the bag at the top or corners is distinctive in this machine.

Waldron Slitting Machines

Various types of slitting machines including the new slitter for "Cellophane" illustrated. This machine is designed to provide individual control for each strip. Cuts with shear edge eliminating cracked edges. Heavy Waldron construction assures speedy, smooth, trouble-free operation.

WEB
Lacquering
MACHINES

The Waldron Reverse Roll Coater is especially designed for the application of quick drying lacquers or varnishes. The lacquer is applied in a smooth, solid, uniform coat, without ribbing or brush marks. Particularly adapted for applying metallic coatings, bronze, lustre or waterproof coating on paper or fabric.



Waldron Slitter for "Cellophane"

Waldron Coating Machines

Waldron Coating Machines are available in knife, combination roll and knife, roll coaters, brush type and spray head, covering the entire range of coating requirements. Regardless of the kind of coating material used —thin staining material for tints, waterproof material, varnish or lacquer—a Waldron machine can be depended upon to apply it faster, smoother and better.

Waldron Laminating Machines

For the combining of cloth, paper, "Cellophane" and boards using paste, asphalt, lacquer, latex, hot melts or cold adhesives. Ideal for applying adhesive to "Cellophane" smoothly and without "ribbing."

Waldron Waxing Machines

Of heavy construction suitable for high speed operation and with either water bath for high luster or cylinder chilling rolls with brine. Nashua-Kalamazoo licensed suction method for water removal used when run with water dip method of chilling.

Engineering Service

Utilize Waldron's century and more of experience to assist in solving your particular processing and production problems. Inquiries of any nature invited and treated in confidence.

Cellophane and Pliofilm to paper. In a series of English patents,[7] Wilson describes a well thought out process for embossing of such lacquer coated papers, apparently drawing heavily upon the process for embossing thermo-plastic celluloid which, at that time, was already in existence. Other early forms of lacquering machinery are described by Ullstein, Eckstein, Pichler, and Bush in patents[8] covering ten years.

The first modern refinement of the prehistoric dipping process which appears in the literature is described by Crane in an early English patent.[9] In fact, the directions for racks, ventilation, etc., are a good specification for any modern lacquering operation based upon the dipping method.

The modern high power spray gun capable of handling low viscosity lacquers, containing exceedingly high proportions of nonvolatile, was developed over the years between 1920 and 1924, designed primarily as a mechanism for the painting of automobiles.

Probably the best known of the early machines designed for lacquering continuous webs of paper was the Lubbertsmeier coater. In this mechanism continuous paper webs run in contact with a roller turning in a trough of wet lacquer.[10]

In an effort to overcome the porosity of paper, cardboard, etc., Gestetner[11] describes the use of drying oils, waxes, etc., as a first coat or size, before application of the lacquer. According to Worden[12] the Currier coating machine was well known and in wide use upon both fabric and paper in 1911. The first description of the lacquering of regenerated cellulose foil appears in a patent to Ballande & Company.[13] Recently we find such refinements as the simultaneous coating of two sides of a continuous paper or foil web and a mechanism[14] for supporting the wet web between two balanced columns of air. The lacquering of transparent foils has presented some of the most interesting problems in the history of paper lacquering and the solution of these problems is described in the patent literature.[15]

Somewhat suggestive of the way in which emulsion lacquers work upon absorbent paper is the patent issued to Hall[16] who wets the paper web with water before lacquering to prevent absorption of the lacquer when applied to the surface.

Novel adaptation of the centrifugal airless spray gun[17] has been made by Bracewell[18] who feeds lacquer upon a rotating table where it is atomized and thrown upon a web of paper drawn through a concentric annular holder.

The first important sheet coating machine, manufactured substantially unchanged today as described in the original patent,[19] was that invented by the Chambers brothers in 1881. For flat sheet the machine now commonly known as the Fuchs & Lange coater[20] was also apparently well known and in commercial use as early as 1911. None of the sheet coating machines described in the literature seem to have been designed for the specific application of lacquer to paper.

Various attempts have been made to adapt the principle of the paper waxing machine to the application of paper lacquer. Essentially this consists of running the wet lacquered sheet under tension over a rod which removes all but the desired amount of wet lacquer. Boyers[21] shows how the size of this doctor rod may be made to determine the amount of lacquer applied. Coates[22] substitutes for the doctor rod a spring and the liquid lacquer is pumped through its hollow center and is delivered between the coils of the spring to the sheet being coated. Dennison[23] discloses the use of a grooved spreader bar.

Quite recently Fawkes and MacKenzie[24] have shown how the lacquer viscosity may be related to the paper porosity and how a critical liquid shear may be set up in a sheet coating machine with the result that lacquers of such a critical high viscosity may be applied smoothly without laid lines and ridges.

These processes cannot continue to hold the present pitch of interest simply because the results seem to be new. It will be the uniform and consistent efficiency with which lacquer performs its assigned functions as a paper coating which must carry it on from this point. Surely such functions as heat sealing, moisture-proofness, grease-proofness, washability, color stability, etc. are sounder principles in paper coating than the sole property of "glossiness" possessed by most alternatives. And, when such versatility is obtainable simultaneously with eye appeal, the paper lacquer chemist has good reason to believe that he will go far. At the same time, there is no reason to believe that spirit varnishes or overprint will ever lose much ground to lacquer on vegetable can labels, cigar bands, or other places where glossiness and low cost are the only considerations. Furthermore, it is likely that lacquer costs will continue, for a long time, to be higher than spirit varnish. Still the use of lacquer on paper is today expanding in spite of this cost differential, because, used intelligently upon packaging problems, it can be fitted to the requirements of the job with a nicety impossible for any other coating obtainable to date.

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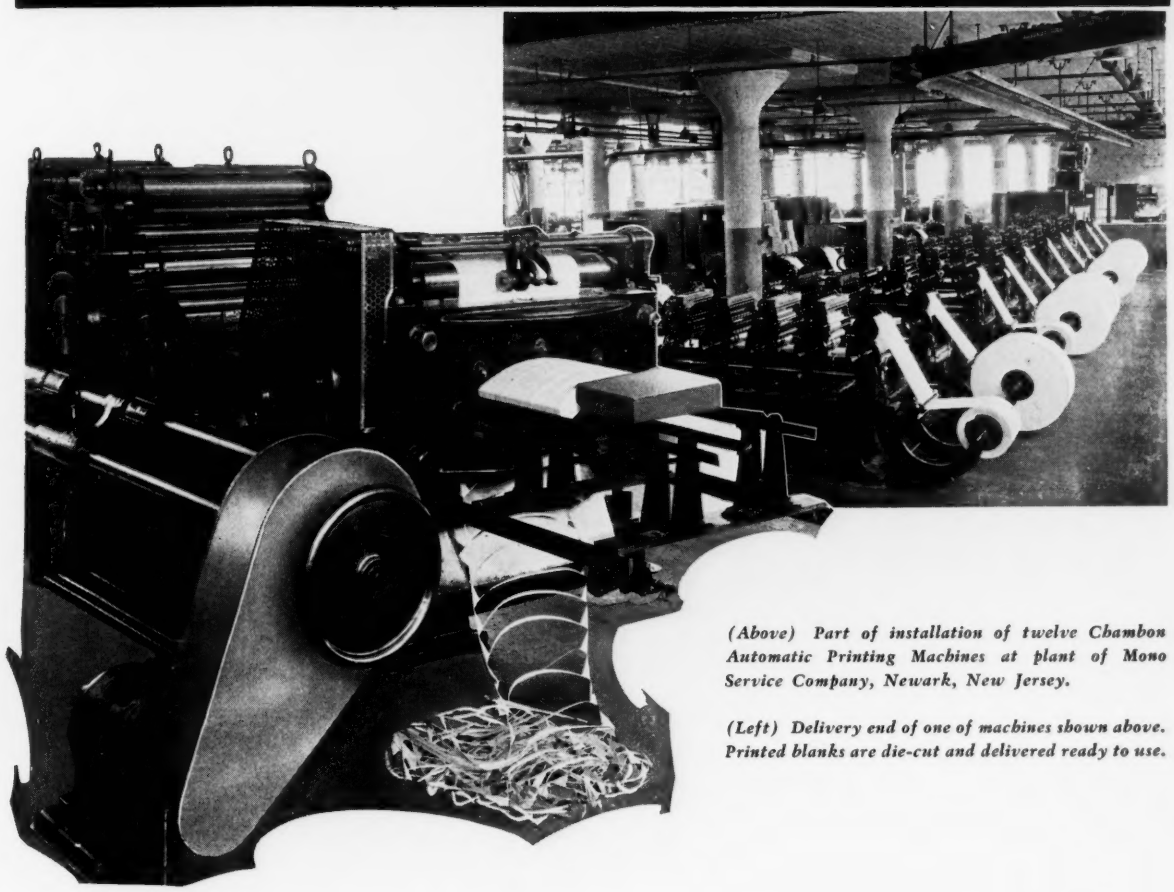
[1] Canadian Patent 311,079; 5-5-1931, Pratt et al. Other patents pending
[2] English Patent 320 (1855)
[3] U. S. Patent 88,948
[4] U. S. Patent 251,410; 1881, Carpenter
U. S. Patent 253,840; 1882, Carpenter
[5] English Patent 554 (1883)
[6] U. S. Patent 290,553; 1883, Edison
[7] English Patent 6051 (1884); 491 (1885); 4668 (1885) Wilson
[8] English Patent 9624 (1895); 22,674-1898 Bush
English Patent 9261 (1894); Pichler
English Patent 18,932 (1892); Eckstein
English Patent 5,657 (1885); Ullstein
[9] English Patent 4,954 (1887); Crane
[10] English Patent 29,620 (1904); Lubbertsmeir
[11] French Patent 395,788; Gestetner
[12] Nitrocellulose Industry (Van Nostrand) 1911; pg. 380.
[13] French Patent 457,925; 10-29-1913, Ballande & Co.
[14] John Waldron Machine Company
[15] U. S. Patent 1,826,696; 9, Charch et al.
[16] U. S. Patent 1,764,624; 6-17-1930, Hall
[17] U. S. Patent 1,908,230; 5-9-33, Fawkes
[18] U. S. Patent 1,946,831; 2-13-34, Bracewell
[19] U. S. Patent 247,745; 10-4-1881, Chambers et al.
[20] Nitrocellulose Industry (1911); Pg. 341
[21] U. S. Patent 1,944,835; 1-23-34, Boyers
[22] U. S. Patent 1,956,561; 5-1-34, Coates
[23] U. S. Patent 1,975,195; 10-2-34, Dennison
[24] U. S. Patent 2,016,085; 10-1-35, Fawkes & MacKenzie

CHAMBON



(Above) Part of installation of twelve Chambon Automatic Printing Machines at plant of Mono Service Company, Newark, New Jersey.

(Left) Delivery end of one of machines shown above. Printed blanks are die-cut and delivered ready to use.

Automatic Printing Machines for Quantity Production

Chambon automatic printing and cutting machines operate at high speeds, producing million quantities of printing at savings of 20 to 30% over present costs.

Chambon machines handle any kind of paper from cellophane or glassine up to 35-point board. They are roll-fed with all operations continuous. Their design eliminates the necessity of skill on the part of the operator. Micrometric adjustments are provided. All operations are performed successively in a horizontal line by separate, self-contained units.

Chambon machines are designed to print from precision plates, good for millions of impressions, in any number of colors, using letterpress, dry offset, or gravure or a combination of these methods. All supplementary operations are performed on the same machine, such as: varnishing, lacquering, waxing, laminating, scoring, creasing, embossing, perforating, slitting, sheeting, rewinding, dieing out to shape, etc.

Chambon printing units are interchangeable and allow for changing over quickly from one job to another. Delivery is designed to suit the requirements of the user. The entire machine is compact and requires but a fraction of the floor space required by heavy, bulky equipment.

Users of printing in large quantities are invited to submit their problems for analysis. We will submit a proposal showing you what savings can be effected over your present costs. If possible, submit samples and figures on production requirements.

CHAMBON CORPORATION · UNION CITY, N. J.

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TYPES AND USES OF TIN PACKAGES AND CANS

BY EDMUND HOFFMAN

THE PRODUCT of the tin container manufacturer is so broad in scope and so diversified in type that only the most standardized classifications can be outlined in the allotted space of even so generously proportioned a publication as this catalog. In addition to thousands of specialty items, the can manufacturing industry supplies containers for hundreds of major products so varied in type and package requirements as aspirin tablets, paint, fruit cake, talcum powder, coffee, shoe polish, tomatoes, cigarettes, oysters, lard, hand soap, lubricating oil, etc. Methods of manufacture and the types of equipment required to produce containers for these products vary as widely as the products themselves.

Tin containers are divided by the manufacturer into two general classifications: (1) Packers' Cans and (2) General Line Containers.

Packers' Cans

Packers' cans, also called sanitary cans, are the hermetically sealed containers used for packing processed perishable foods such as vegetables, fruits, fish, meat products, soups, etc. Every one is well acquainted with the standard cylindrical sanitary can commonly used for packing tomatoes, baked beans, salmon, corn or soup. These round cans, made in a wide range of standardized diameters and heights furnished with the design lithographed on the body of the can or in plain tin for paper labeling, represent the bulk of the production of the packers' can factories.

Other types of sanitary cans are the tall oblong style commonly used for packing asparagus, the flat oblong sardine can and the large, irregular shaped cans now widely used for packing whole hams and chickens.

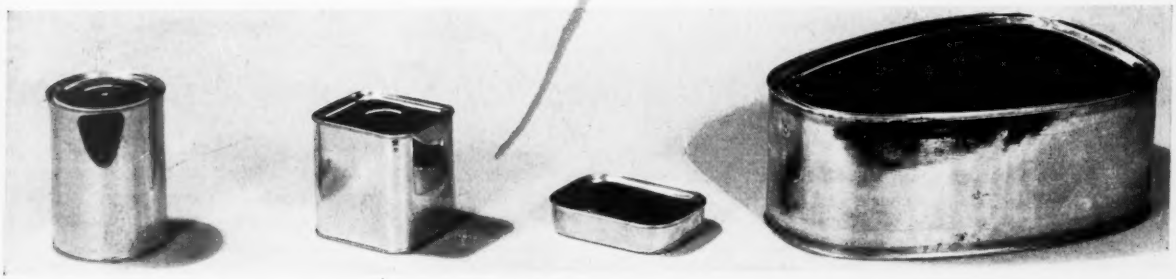
General Line Containers

General line cans embrace all of the tin containers other than those for processed food products and are divided into two principal classifications: (1) Liquid Containers; (2) Dry Product Containers.

Liquid Type Containers

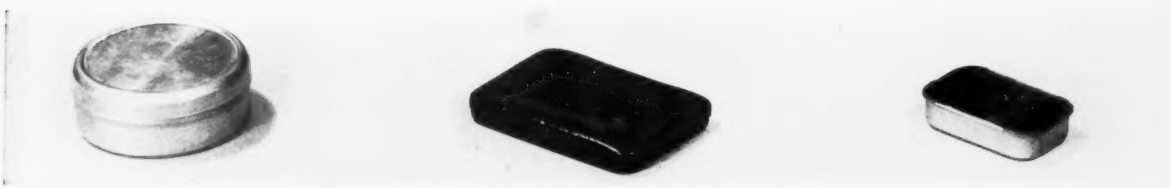
The standard and most widely used of the liquid type containers range from the small oval lubricating oil can

PACKERS' CANS



Left to right: Round, tall, sanitary can for vegetables, fruits, soups, fish and other processed foods; oblong, tall, sanitary can commonly used for asparagus; oblong, flat, sanitary can, sardine type; irregular sanitary can for whole hams and chickens

GENERAL LINE CANS—SEAMLESS TYPE



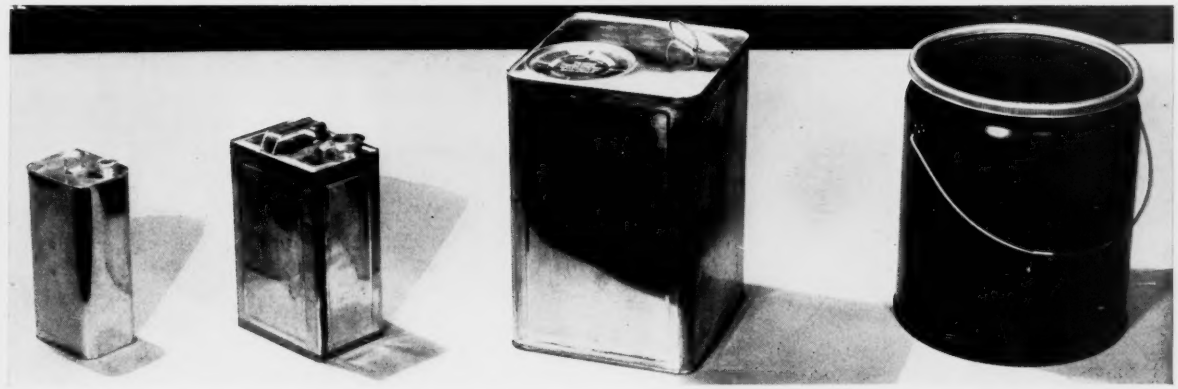
Left to right: Round, seamless, slip cover ointment box; oblong, seamless, hinge cover tablet and pill box; oblong, seamless, slide cover box for tablets and similar products

Tin Packages and Cans — Fibre-Bodied Cans — Paper Tubes — Aluminum Containers — Metal Covered Boxes — ~~Metal Displa~~ys

XUM

Left to right: Round, pieced pail, with doubletite friction plug and wire bail, widely used for paint; round, pieced pail, with full friction opening and wire bail for oysters, cleaning pastes, etc.; round, pieced can, with single friction plug, for paint and various liquid products; round, pieced can, cone top style with screw neck and cap for metal polish

Left to right: Key collar vacuum can for coffee and dehydrated milk; oval oiler with spring bottom and utility spout for household lubrication; round, pieced, sanitary style, motor oil can for use with special dispenser



Left to right: Oblong, pieced can, with screw neck and cap and wire ring handle for edible oils, lubricating oils, syrup, etc.; oblong, pieced can, with nozzle and tin handle, for varnish, shellac, etc.; square, pieced, domestic oil can with single friction opening and wire ring handle; round, pieced pail, with ring seal cover and wire bail, for paint

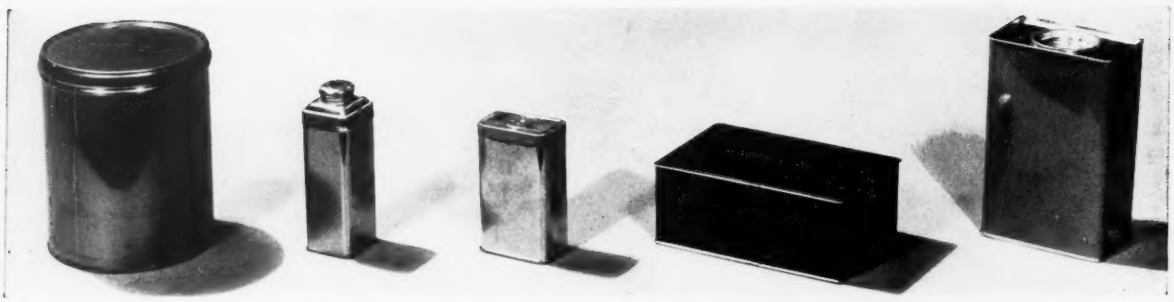
to the familiar five gallon square can used for a variety of products. Cans in this group include those used for paint, varnish, linseed oil, metal polish, syrup, olive oil, alcohol, lubricating oil and a number of chemical products. Liquid containers are made with soldered or compound lined seams and are carefully air tested for leaks. Although containing a dry product, the widely used key opener vacuum coffee can is included in the liquid type classification, for it is made not merely liquid tight but sufficiently tight to hold a high vacuum or interior pressure.

Dry Product Containers

In the dry product classification is found the widest diversification of size and type of package ranging from the $\frac{1}{16}$-oz. ointment box to the 50-lb. shipping containers for bulk crackers. In this group are included

XUM

GENERAL LINE CANS—PIECED CANS—DRY PRODUCT TYPE



Left to right: Round, pieced, slip cover can for crackers, etc. Same type in flat style used for cakes and candy; square, pieced, friction slip cover talcum powder can with neck and revolving perforated sifter cap; oblong, pieced, friction slip cover spice can with revolving sifter dredge. Same type with regular slip cover and without dredge used for cocoa. Oblong, pieced, padded hinge cover candy box; square, pieced, single friction top can for powdered drugs and chemicals

GENERAL LINE CANS—SPECIALTIES

Left to right: Lunch kit, made to accommodate vacuum bottle in cover; vacuum bottle holder; goggle case; spools for adhesive tape; irregular shaped syrup can

cans for cocoa, tobacco, crackers, spices, aspirin tablets, coffee, cigarettes, talcum powder, tea, candy, baking powder and various dry drugs and chemicals; also an infinite variety of specialties embracing such items as dental bobbins, lunch boxes, vacuum bottle cases, first-aid cabinets, goggle cases, etc.

Dry product containers may be further classified as being (1) seamless or (2) pieced. The seamless box is one in which the body is drawn or pressed into shape from a single piece of tin plate. Many of the smaller containers such as those used for aspirin tablets, laxatives, ointment and shoe polish belong to this classification. Pieced containers are those in which the body and bottom are made of separate pieces of tin plate pieced or seamed together. Most tin containers whether for a roll of ½-in. adhesive tape or for five gallons of paint are of the pieced type.

Covers and Closures

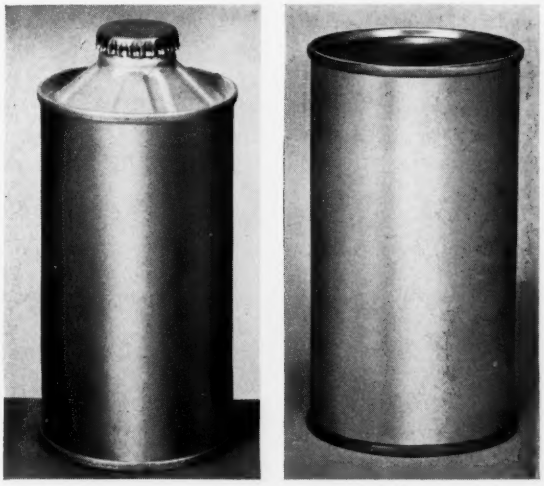
The final factor in classifying a container is the type of cover or closure used. The regular slip cover, usually seamless, is so well known as to need little description. It may be made with either raw, hemmed or curled edge, is applied and removed by hand and fits over the top of the body of the container loosely or snugly as may be required by the product contained in the can. Covers of this type are used on many of the seamless type boxes as well as on cans for baking powder, tea, candies, cake, crackers, etc. Of similar type but of different function is the friction slip cover. This cover is made to fit the body snugly, is usually applied by machine and is not removable. Such covers are usually fitted with a sifting dredge for spices, a sifting neck for talcum or other toilet powders, or a screw cap for drug and chemical powders.

The hinged cover is also quite generally used on oblong and square dry product containers both large and small. Lugs on both body and cover of such a container are clinched over a piece of wire, thereby joining the two members together. Aspirin boxes, tobacco tins and most of the larger size oblong candy containers are ordinarily provided with hinged covers.

Still another type of cover for dry products is the slide cover. This is confined almost entirely to small oblong seamless boxes for pills or other small products. Automobile tire valve stems and a variety of proprietary tablets are packed in seamless slide cover boxes.

The compression friction top is a type so generally used that every one is thoroughly familiar with it. Al-

though most commonly associated with round liquid type cans, particularly paint cans and pails, it is used on round, oval, square and oblong containers for both liquid and dry products. Its chief function is as a closure to prevent leakage of liquid or sifting of dry powdered product. There are two types of friction tops; the single friction and the "doubletite." As the name implies, the single friction makes contact between



New types of metal containers for beer

the plug and ring at one point only, whereas the "doubletite" has two separate points of friction contact. A variation of this type of closure is the full opening friction. In this type the top of the can body is not fitted with a seamed ring and the friction plug fits the full opening of the can body.

All processed foods as well as those packed under gas or vacuum are hermetically sealed in cans having both top and bottom ends double seamed to the can body. The processed food cans are opened with a can opener, the contents usually being immediately consumed and the container discarded. In cans of this type no re-closure feature is needed or provided.

The can for products packed under gas or vacuum is furnished with a key for winding off a scored strip circling the body near the top. A separate ring, or collar, of tin is attached to the inside of the top of the can body forming a seat for the slip cover which remains after removal of the scored strip, thus giving these cans a re-closure feature. The vacuum coffee can is an example of this type of container known in the trade as the key collar can.

There is also a great variety of liquid type containers made with double seamed tops fitted with nozzles or threaded necks to accommodate various types of closures as detailed elsewhere in this catalog. Cans of this type are used for edible oils, syrups, varnishes, lubricating oils, alcohol and many other liquid products.

Tin plate as used in can manufacture consists of a steel base, rolled from bar form into a thin sheet and coated or plated with tin. The unit of measure for tin plate is the "base box" consisting of 112 sheets, 20 in. long by 41 in. wide. Tin plate is first classified as to the weight of the sheets in terms of pounds to the base box. These weights range from 56-lb. (0.00638 in. thick) to 175-lb. (0.1995 in. thick) plate. The larger the container and the heavier the product to be contained, the heavier is the plate required for the can. The great majority of cans of average size are made of 90-, 95- and 100-lb. plates. Tin plate is further classified as to the weight or thickness of the tin coating, sheets with light coating being designated as "coke plate" and those with heavier coating as "charcoal plate." There are several grades each of coke and charcoal plates. Coke plate is most extensively used, charcoal plate being required only for cans containing a product embodying an oxidizing agent.

Methods of Can Manufacture

Methods of can manufacture may be broadly classified into four groups: (1) hand made; (2) single operation; (3) semi-automatic; (4) automatic. Standard cans used by the trade in large volume are made by the automatic or semi-automatic method, whereas non-standard cans of small volume must be made by hand or single operation methods, as the limited volume would not support an expensive automatic line of machinery. Therefore non-standard cans are costlier.

Tin containers may be supplied in plain tin for paper labeling or may be lithographed in any combination of colors from the simplest one color label embodying lettering only, to the complex multi-colored art subjects widely used on tin containers by the confectionery and toilet goods trades. Important advances in methods of lithography on tin have been made in the past few years and many new and effective finishes introduced. Each color of the design is printed separately on the flat sheet of tin plate and baked in a high temperature oven. After the last color is baked on, a protective coating of varnish is applied and baked hard to prevent scratching or marring during manufacture and to preserve the attractive appearance of the finished container.

The actual manufacture of the tin container is only a part of the complete service rendered to the trade by the larger can manufacturers. Expert advice as to type of container and merchandising methods is given by men qualified by years of experience in the container field. Extensive art staffs are maintained to produce designs and to advise with respect to color schemes and all matters pertaining to the decoration of the container. Research laboratories, with staffs of expert chemists, are available for the study of problems of bacteriology, corrosion, product deterioration and all matters pertaining to packaging in tin. A large staff of expert mechanics is maintained and is available at any point throughout the country, day or night, on short notice, for the servicing of can closing machinery in customers' plants.

XUM

METAL CONTAINER FINISHING

BY HENRY F. FRANK

MOST INDUSTRIAL PRODUCTS are fabricated in various steps and ways ultimately leading to the final decoration and finishing of the completed product. Lithographed metal containers are finished backward, as it were. The tinplate, aluminum or other material is first given the necessary coating of clear varnish or coating enamel, is then given the decorative lithographic design, and a final varnish treatment. Interspersed are the necessary baking operations. The tin plate in its full glory is then ready for fabrication. Naturally, the protective and decorative finish has to be of an unusual character to withstand this unusual production procedure.

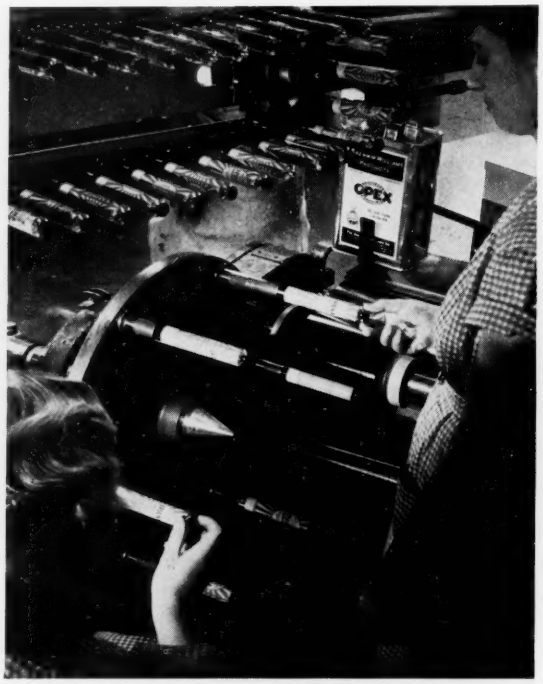
Strips are cut from large tin plate sheet which has already been sized, coated and varnished. Above: Flat blank and first operation shell cut from strip on a punch press fitted with a combination cutting and drawing die. Below: Operations from left to right are redrawing, trimming and forming. These three steps are performed in one gang press

The sheets are coated by means of a roller coating machine. The coating or clear varnish is placed in the well and is fed onto a feeder roll and then a second roll (both of steel) which in turn deposits it on a composition roller. The bottom steel roller has a scraper arrangement to keep the material off the portion of its surface in contact with the sheet being coated. All sheets are coated on one side and then the other. The design is then lithographed over the base color.

The base coating must have good adhesion properties for obvious reasons. The drying qualities must be such that they meet the demands of various heats and drying times in baking ovens. Covering quality must be good for economical production, and have good flowing qualities to obtain the requisite smooth finish. The drawing qualities must be excellent to withstand the subsequent fabrication.

The following are typical constituents (in varying percentages) of a white base coating: Zinc oxide, titanium oxide (either or both), synthetic resins, linseed oil, China-wood oil, mineral spirits.

Baking is necessary for adherence and also to insure that the coatings will stand the drawing operation. Furthermore, the ability to withstand surface abrasion is of considerable importance.

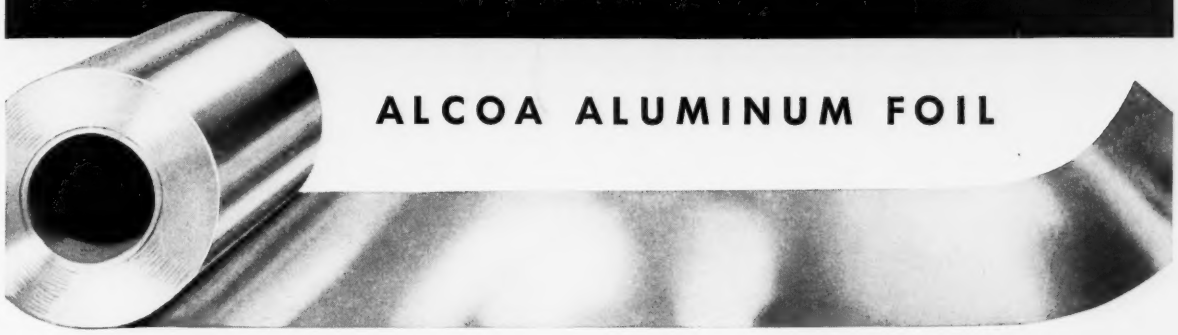


Tooth paste tubes receiving their final protective coat of protective lacquer. It is this special lacquer which prevents soap, warm water and chemicals in the medicine chest from dissolving or discoloring the finish on the tube. The tube finish must also stand bending and abrasion without chipping or peeling of the surface

The forming operations on various can parts, after finishing—body, bottoms, breast tops, screw tops, etc.—all require special steps. It is also necessary to see that soldered cans are free from finish at the point of soldering. With crimped cans this is unnecessary.

The interior of fruit and vegetable cans requires different types of lacquer coating to withstand the action of the canned products. "C" lacquer, for instance, is

PACKAGING HELP that speeds sales



It is remarkably economical, because its covering area per pound is great. The gleaming metal armor is impervious to light, moisture, air. It reflects heat; keeps products cooler in summer. The metal is nontoxic, cannot contaminate, nor affect color or taste. And Nature made Aluminum "Friendly to Food."

COLLAPSIBLE TUBES

Alcoa Aluminum Tubes cost less. They are lighter, exceedingly strong, yet the annealed walls are as soft and yielding for feminine fingers as any other tubes. They are made in all sizes up to 2½ inches diameter. Lithograph beautifully.

CANS AND CONTAINERS

The same impact extrusion process can give you seamless, thin-walled containers of many types. They can be lithographed in beautiful colors. Write for literature. ALUMINUM COMPANY OF AMERICA, 1829 Gulf Building, Pittsburgh, Pa.

ALCOA

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XUM

for cans containing corn, fish, crabs, lobster, etc., to resist certain acid reactions set up by these substances. The regular "gold" lacquer is necessary for some other fruits and vegetables.

Metal ends for paper containers such as are used in household cleaners, are often finished with an alkali resistant material. Resistance to abrasion is greater in some finishes than others, and this quality has advantageous uses.

There are two types of finishing varnish applied as a final coating, after base coat and lithographing are completed. The ordinary white varnish and also a white processing varnish that has special steam and hot water resistant properties to withstand the severe action in cooking fruit and vegetables, after they are in the can.

Screw caps also offer their individual finishing problems. On liquor closures, for example, alcohol-resisting coatings are necessary. Sanitary lacquers must not impart odor to the material processed.

Certain types of crowns for bottles and salve boxes need white processing varnish over all lithography to resist the action of sterilization. The interiors have "Sanitary" lacquer protection.

Collapsible tubes are finished after the tube is formed. They are placed on a mandrel and a spinning movement applies the necessary coating. Protection is again an important factor—Ipana Toothpaste tubes, for instance, are coated with alkali-resisting coatings to withstand bathroom and medicine chest contact with soaps and other alkalis.

TYPES AND USES OF FIBRE-BODIED CANS

BY ARTHUR H. GRACE

THE FIBRE-BODIED CAN, as a unit package, has its place in the packaging field, as well as its limitations. While primarily adapted to dry packaging of food, drug, cosmetic and chemical products, there is hardly a dry product today, which employs a unit package, where a fibre-bodied can cannot be considered. From a cost standpoint the fibre-bodied can follows the middle road between the paper bag package and the all metal can, or glass container, each classification having its individual respective fields, yet each over lapping in certain uses.

While usually confined to the packaging of dry products, the fibre-bodied container also has its place as a temporary container for hot or cold liquids. Rapid strides are being made toward the development of a fibre-bodied can for lubricating oil and greases, paint and shortenings, but as yet this potential market has not been developed.

Fibre-bodied cans are sometimes referred to as paper cans. The accurate, technical, term should be "fibreboard" cans; custom has established "fibre" cans as the accepted nomenclature.

In developing a fibre can package, the cubical capacity required for the product must first be established. Next, the shape of the package which will best serve the purpose, not only from the standpoint of the package itself but also from the consideration of shelf display space; then the style of top for dispensing purposes. Custom establishes rather definitely the sizes and shapes required for certain types of products, unless there is a specific desire to vary the established practice.

The round shaped container continues to enjoy immense popularity, practical usage necessitates other shapes, which are being adopted for various products.

There are two distinct types of fibre-bodied cans: one a fibre body fitted with *fibre* ends; second, a fibre body fitted with *metal* ends. There is a third possibility, a fibre body fitted with one fibre end and one metal end. The all-fibre end can is restricted from a manufacturing standpoint to either a round or oval shape, whereas the metal end can, can be made in almost any shape desired, provided the manufacturer has the necessary equipment and dies to construct that particular size and shape.

After full consideration has been given to the size, shape, etc., the question of label design bears a most important angle on the package appeal and shelf display appearance. Can manufacturers do not make or print labels—they merely apply them to the package when required. There are some minor exceptions. Label layouts are furnished without charge, as to size, panel spacing, trimming and other details, but all art work design and printing is a printing problem. Different methods of construction of the can bodies require different label application. This will be discussed later.

Fibre cans are not carried in stock but made to order for the individual requirements. Specifications vary, and where labeled cans are involved, carrying a stock would be particularly impractical. A few manufacturers carry in stock certain round all fibre cans commercially known as drug packers, for standard capacities of drugs and chemicals; also mail cases for bottled liquids, made to accommodate standard Rx bottles.

The time required for the manufacture of cans varies with different manufacturers. Generally speaking a week to ten days is sufficient time to produce any order although there are times when a shorter or longer period of time may be required.

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get in touch with our local representative by looking for the name Sefton Fibre Can Company in the yellow pages of your telephone directory under the heading, Cans

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WHEN...

1. It keeps the contents in perfect condition.

Canco containers do just that.

2. It gets attention at the point of sale.

Canco containers get it.

3. Its convenience and neatness impress the user—encourage repurchase of your brand.

Canco containers are designed to do both.

4. It expresses good value—good quality.

Canco containers do both.

5. It is the proper package in shape and design for your particular product.

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CANCO

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She didn't ASK for a brand but she's going to buy THIS one!

How many shoppers daily ask for things without specifying brand? MILLIONS!

When this happens, the problem is how to get dealers to reach for *your* brand rather than some other.

One good way is to make it as easy as possible for the dealer to put his hand on your package.

This Canco dispenser does just that for Tender Leaf Tea. And more—it puts the product directly behind the center of the service counter, directly in the customer's line of vision.

Result: "This display has increased our sales, and helped us secure additional outlets," says Standard Brands, Inc.

• • •

Creating a successful metal display piece requires more than a knowledge of how to build something handsome, inexpensive and permanent. It calls for a definite merchandising sense that can arrive at the most profitable piece for the particular product. Canco men have this sense, and have proved it over and over again in every retail field. Why not discuss your display problems with Canco?

AMERICAN CAN COMPANY

MERCHANDISING SPECIALTIES DIVISION

Metal **DISPLAYS**

Few changes of importance have been made recently in the manufacturing process of fibreboard bodies, aside from installation of speedier and larger machines capable of producing an increased volume, as well as larger sizes. In no case can the body wall of the can be tapered, as only a *straight side wall* can be furnished in any, so-called fibre-bodied cans.

There are two general methods of manufacturing fibreboard can bodies. The most commonly used is the laminated can body. With the other the body is formed —generally referred to as the English method. The laminated can body is divided into three different types of construction: first, a spirally strip wound body; second, a convolutely (straight) strip wound body and third, a convolutely sheet wound body.

All can bodies are constructed of fibreboard. The kind of board used as well as the point thickness of the body wall is determined by the type of construction desired for the nature of the product packed.

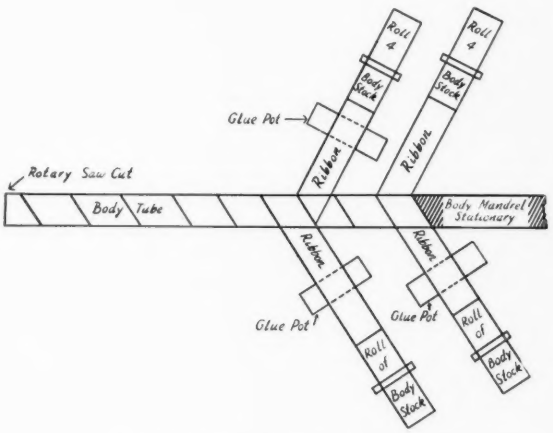
Fibreboard for laminated can bodies is purchased by the can manufacturer in so-called jumbo rolls, which are slit to ribbon widths except in the sheet method and English method. (The width of the ribbon is a manufacturing detail and is governed by the size and the height of the can body.) This ribbon of fibreboard is fed automatically onto a body winding mandrel, conforming in size and shape to the customer's package requirements, the exact dimensions of this winding mandrel determining the *inside* dimensions of the can body and conforming to the base size and shape of the customer's specifications. The height of the can body can be adjusted to the individual requirement subject, of course, to manufacturing facilities available. From a manufacturing standpoint, costs of manufacture for a convolutely wound body are higher than for a spirally wound body.

Spiral Body Winding, Ribbon Method

Spirally wound can bodies are usually manufactured from a fibreboard commonly known as straw chip. Straw board, straw chip, chip board, news board and test liners are some grades of body stock used, as well as manila-lined stock or coated-one-side stock, depending on the customer's specifications or based on the nature of the product to be packaged.

Each laminated can body consists of two or more plies of fibreboard. Each ply being a separate unit permits of variation in the nature of the stock used as well as the caliper point thickness of each ply. Spirally wound cans are usually made from stock ranging in caliper thickness from .008 points to .040 points, the total body wall thickness depending on the number of plies of stock in the body and the caliper point thickness of each ply. While manufacture has standardized the usual requirement as to caliper thickness of each ply of board used, as well as the number of plies of fibreboard and the total body wall thickness required, all of these may be varied as conditions necessitate. To illustrate: A .024 point body wall can be wound in 3 plies of .008 point body stock, 2 plies of .012 point stock, or 1 ply of .016 point stock and 1 ply of .008 point stock.

Ribbon widths of the fibre used are automatically fed into the winder from angular positions, onto a body winding mandrel the size and shape of which corresponds to the base area of the specifications given. The different plies of fibreboard are wound into a continuous tube form approximating 40 to 50 in. in length and are held together by adhesives of various kinds. The tubes are then cut to sizes corresponding to the height of the container desired.



Spiral body winding, ribbon method

Spirally wound can bodies are usually made with a so-called "straight" side wall. Where a slip-on cap is used—either fibre or metal—a recess is sometimes provided at both ends of the body, in order that the cap may fit flush with the can body, permitting of smooth hand or automatic label application. This recess is provided in either one of two ways: (1) Jacketed. A portion of the outer ply of the body wall, about ½ in. in width, is stripped off both ends of the can body; or (2) Necked in. Both ends of the can body are subjected to pressure, about ½ in. in width. Thus a spirally wound can body can be furnished with: (1) A straight wall; (2) a jacketed wall; or (3) a necked-in wall. Either drawn fibre caps or drawn metal ends can be applied to these can bodies.

Convolute Body Winding, Ribbon Method

Convolutely wound can bodies are made from one single and continuous sheet of fibreboard, cut into ribbon widths equivalent to the height of the can requirement. The nature of this board differs from that used in the construction of spirally wound cans in that the quality is usually of a higher grade and the caliper thickness does not exceed .012 to .016 points. The stock generally used is can fibre, each manufacturer having his own grade of special stock for this particular type of construction.

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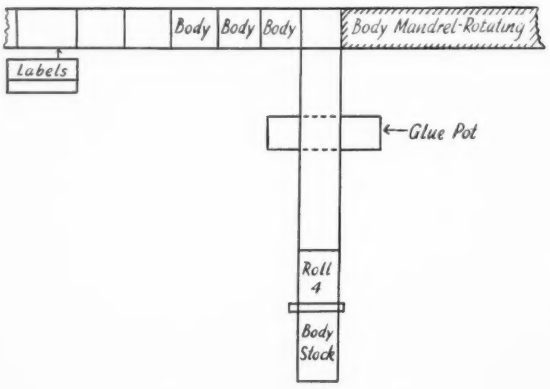
One ply is wound directly upon another and each ply is laminated to the other by adhesives of various grades. The winding mandrel conforms in size and shape to the base area of the customer's package specifications, usually, only one can body being wound at a time. The different plies of the can body are not interchangeable; the construction is definitely fixed by the nature of the stock used—which stock, however, might be a duplex or a laminated sheet, where special body construction is required.



Convolute body winding, ribbon method

As mentioned before, a convolutely wound can body can be made in any shape required, whereas a spirally wound can is obtainable in the round and oval shapes only. A convolute can body is more rigid than a spiral body and can be automatically labeled at the time the can body is wound. As in the case of spiral cans, either drawn fibre caps or drawn metal ends can be applied to convolute can bodies, fibre ends being restricted to round or oval shapes.

Convolute Body Winding, Sheet Method

Another method not as general is the sheet method. These bodies are laminated sheets, one ply directly on top of the other. The width of the sheet being determined by the ply wanted, the length by the number of can bodies wound at one time. All widths are even plies from 2 to 10 plies. The length of the sheet is determined by the height of the can to be wound. These sheets, plain or printed, after skiving or feathering of one edge, are then pasted on the plain side, all but the first lap, which is unpasted. The sheets are put on a revolving rack and then are wound onto a steel mandrel in any diameters required. The skiving process is used so that starch or cold water flour paste can be used instead of prepared or hot glues. From this point on, applying of fibre or metal ends is the same operation as for other can bodies.

The fourth method usually confined to irregular shapes originated in England and has been used in a restricted way in this country. Various types of board, plain or printed, of the caliper thickness required for the body wall are fed automatically onto a body forming mandrel much the same as tin can bodies are formed. The ends are sealed together by a fibre or metal strip, a patented process. The application of printed labels to this type of body differs from other methods of construction in that printed labels, if used, must be applied first to the sheet prior to the body forming operation. Ends are applied in the same manner as outlined later for other types of construction.

Body Treatment

Because of the nature of some products, it is necessary to treat the fibre can body to make it moisture-resistant and to make it capable of resisting body penetration. This can be done in two ways: first, through the use of body-liners, and, second, through the use of various preparations, both of which effect satisfactory results.

Various kinds of liner papers can be used, the exact stock to be used depending on the requirement. Glassine, parchment (genuine or imitation), grease-proof, kraft, metal foil, and others are used for liners to furnish resistance to body penetration. Gelatin, paraffin, asphalt, resin, and other similar substances may be used to make the container moisture-resistant. These materials may be used between the plies or may be applied to an individual ply at the time the body is wound. The can bodies may also be treated through other processes, such as dipping, spraying or impregnation of fibre.

While the selection of a spirally wound can may prove a disadvantage because of the restriction to the round or oval shape, a distinct advantage of this type over other methods of manufacture is the fact that various kinds of liner paper can be automatically wound into the can body at the time the cans are manufactured, the liner being applied to the mandrel first and forming the inside ply. In other types of construction the liner must be laminated to the body stock before being wound, the liner encircling the can body the same number of times as there are plies of fibreboard in the can body.

Where body treatment is required, consideration must also be given to treatment of the ends of the container. Fibre ends can be given much the same treatment as fibre bodies, as outlined above; but when metal ends are used treatment is rarely necessary except for special conditions.

Can Ends, Fibre

From a manufacturing standpoint, can bodies fitted with drawn fibre ends are restricted to two shapes: round and oval.

Fibre ends are drawn from cap stock (so-called) especially made for the purpose. The nature of this stock differs from the body stock and the caliper thickness varies from .020 points to .040 points, the size of the container governing the caliper thickness of the

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A few of the types of fibre-bodied cans. Top row, left to right: Square base, metal ends, solid top and bottom; oblong base, metal ends, seamed bottom, perforated top; oblong base, metal ends, solid oval friction top; oblong base, metal ends, seamed bottom, slip-on cover. Lower row, left to right: Round base, metal ends, seamed bottom, perforated top (single hole); oval base, metal ends, seamed bottom, seamed top with friction cap; round base, metal ends, seamed round (solid) friction top; round base, straight wall, fibre ends; round base, straight wall, slip-on fibre cover

stock used. Cap stock may be obtained in various standard colors to meet requirements.

Caps are drawn under pressure, moisture and heat, the size of the cap conforming to the size of the can body wound. Varying atmospheric conditions tend to affect fibre caps when drawn, unless immediately applied to the container body upon completion.

One end is usually glued onto the can body and the other slipped on loosely, to be replaced after the container is filled. An identifying mark on the can body usually indicates which end has been glued on.

Fibre caps may be embossed, and in certain instances printed, when drawn with various designs of embossing, where embossing dies have been made. When body treatment is required, it is usually necessary to treat the fibre caps also. As has been previously stated, this may be done in much the same manner and method as described under the body treatment. Caps may be lined with various types of paper to afford resistance to penetration by laminating the liner to the cap stock before the caps are drawn; or caps may be treated with paraffin, gelatin, resin, asphalt, and other preparations to secure moisture resistance.

Sheet metal of varying caliper to suit the individual requirement is cut into ribbon widths from standard or special sheet sizes, the sheet size conforming to the ribbon width required and advantageously cut from the full sheet.

Metal ends are stamped out of the ribbon widths in sizes to fit the can body, one end usually being seamed on (or crimped on) to the body. The other end is shipped separately, to be slipped on or seamed on after the product is packed.

Metal ends are usually made from tin plate, which may be plain, lacquered, or coated, one side or two sides, depending on the appearance desired. Metal ends can be embossed, where dies are made, at the time of stamping out. Because of the nature of the product packed, some metal-end containers must be sanitary-lacquered inside. This protection can be given, where required for such products.

Where large quantities of cans are involved, seaming machines are usually furnished to the customer by the manufacturer, on a yearly contract rental basis. Where small quantities are involved and both ends are to be seamed on (closed), a small friction opening is left in the bottom of the can, through which the can is filled and the opening closed by a metal plug.

The use of fibre-end cans is also restricted in that few types of fittings can be furnished with a fibre top.

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500 FIFTH AVE.

LOS ANGELES
901 E. 31ST. ST.

XUM

Aside from a solid top, the most commonly used fibre-end can is the spout top as on a salt can. A perforated top or a perforated undercap can be supplied as well as a metal plug top; however, usage is limited.

Various types of fittings have been devised for metal-end cans, certain fittings being standard for certain types of products.

Labels and Wrappers

The question of when and how the can is to be labeled should receive attention when consideration is being given to the type of construction desired or required. For obvious reasons, practically without exception, all labels are furnished by the customer but are made up in accordance with specifications furnished by the manufacturer. Laminated can bodies cannot be printed or lithographed.

Decorative papers, not printed, can be used as wrappers for the outside ply of spirally wound cans. These papers are usually furnished in roll form, are slit to ribbon widths and are applied to the can body in continuous form when the ribbon method is used.

Printed labels for spirally wound cans, when supplied by the customer and applied by the manufacturer, may be machine or hand applied—either singly or in strips. The number of labels to the strip is determined by the number of can bodies wound in tube form at the time of winding the body. When in strips, the labels are applied to the tube form after the body is rolled but before slitting to size and the ends are put on.

Recent developments permit of automatic machine application of printed labels to spiral wound can bodies after the body is wound. Printed labels can be applied automatically to cans after filling—which operation is advantageous in the case of certain types of cans—and particularly when the same type of can is used for packaging a number of different products.

Convolutely wound cans can be automatically labeled at the time the can body is wound. Whether a decorative or printed label is used is immaterial as long as the nature of the stock does not conflict with manufacturing specifications. Labels for cans of the convolute type of construction are furnished singly, cut to size.

Separate labels for the sheet method or English method are applied to the fibreboard before the body winding operations either singly or in sheets depending upon the type of construction.

The paper stock used for labels in all cases should conform to a uniform basic weight, not heavier than 25x36-60 lb. stock, and ungummed. Coated-one-side litho label or any plain unfinished book paper will serve the purpose.

Any design or color may be used in printing labels. They may be plain or varnished, just as long as the size and specifications conform to the manufacturer's layout, which will be furnished without charge.

Local freight shipments necessitate cans being packed in standard fibre shipping containers, varying in size to accommodate the wide range of sizes and styles manufactured. The number of cans packed in each container varies although, generally speaking, large-sized—in some cases, over-sized—containers are used because of the light weight involved. Naturally the smaller the number of cans packed to a container, the larger the number of shipping containers required. Sometimes a special container pack is required. For example, where it is necessary to pack for reshipment. This involves special containers, made to specific size. In carload shipments, cans can be packed in fibre shipping containers, but the most economical way is to pack in large heavy kraft paper bags.

Aluminum Containers

ALUMINUM CONTAINERS, of the types shown in the accompanying illustration, because of their lightness, protectability and appearance, have been successfully used for a substantial number of products. Perhaps the oldest form of such containers is that used for shaving soap of the so-called "stick" type. Caps or closures may be of the screw or slip-on type and may also incorporate sprinkler or perforated tops. Ordinarily the containers are of uniform diameter throughout, although banded effects or edgings can be obtained.

Of fairly recent development is the application of color to aluminum containers by means of the Alumilite process, which is also widely used on aluminum caps and adds considerably to their display value. The colors may be applied over-all to the outer or, for that matter, to the inner surface, or can be applied as outline decorative designs, thereby producing unusual effects.

WELL conceived, well executed; these containers by Continental reflect the merchandising sense of an organization skilled in "packaging to sell". Continental's coast-to-coast service, available to any manufacturer, embraces the three basic merchandising ingredients — research, design and package development.

CONTINENTAL CAN COMPANY

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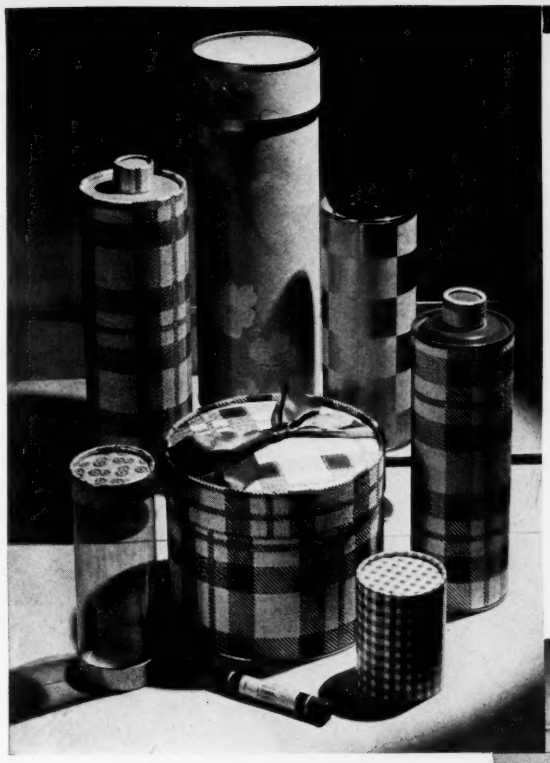

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COSMETICS and TOILETRIES

UTILITY CONTAINERS

Round paper boxes, diameters from ½ inch to 7⅝ inches, plain and semi-perforated. Capacity ¼ oz. to 10 lbs.

COMBINATION STYLES Tin and Paper

Plain top, semi-perforated sifter top, and friction plug style, diameters from 1 to 6 inches. Capacity ¼ oz. to 10 lbs. Also TELESCOPE MAILING CONTAINERS and Display Tubes.

Let us help you to achieve greater display and sales values at lower cost. Write or wire our nearest representative.

THE CLEVELAND CONTAINER COMPANY

10630 BEREA ROAD — CLEVELAND, OHIO

Plants:—New York, Philadelphia, Wilmington, Detroit, Cleveland, Chicago, Plymouth, Wis.
Adhesive Div.:—Brooklyn, N. Y.

XUM

METAL DISPLAYS FOR PACKAGES

BY D. H. BITNEY

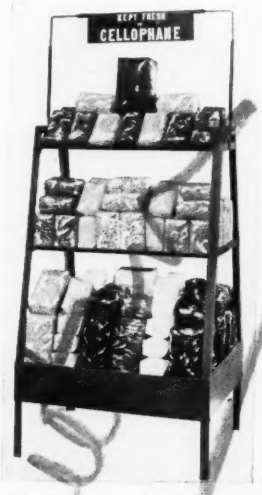
THE DESIGNING and manufacturing of lithographed sheet metal or wire display racks has been studied and developed to a high degree of perfection, and has kept pace with the constant improvements in the packaging of products. In the past two years there have been some attractive and economical display racks developed for almost every type and kind of package from a fly swatter to a hot water bottle. The racks provide displays for products that it would be impossible to display in any other way, and it would be out of the question to get the merchant to display the product unless an easy and attractive method was provided. Invariably these displays immediately increase the sales of the product, and please the dealer who keeps the display fixtures in use for many months. They often pay for themselves the first month they are used.

The statement is often made: "We will have to have a high-class display rack, for our merchandise is high-class and goes to a high-class trade." A nickel-plated or gold-plated rack will not sell high-class merchandise or any other kind of merchandise. Remember that you are not selling racks—you are selling merchandise off of the rack, and if your package is attractive it would sell best if suspended in mid-air, without any rack or anything to detract from it. The more you can get your merchandise out in front of your display fixture, the less you can see of your fixture; the better your product is displayed, the more you will sell of it.

Sheet metal display for hair rinse. Wire displays, courtesy of Union Steel Products Co.; Sheet metal displays by Shonk Works, American Can Company

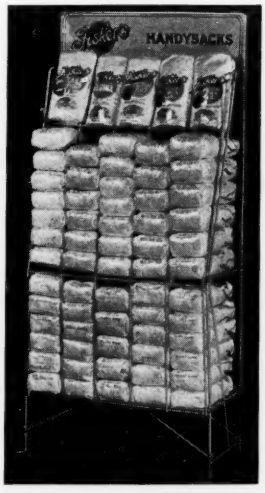
The more inexpensive display racks or fixtures are generally sold to the dealer with a deal of some sort. Some racks are included with a gross of a certain package, or with a contract covering a certain quantity during the year. Naturally more merchandise is sold to the dealer than he has purchased previously, for you have provided a means for him to sell more of the merchandise and bring more profit into his pockets.

The heavier and more expensive racks are most always loaned to the merchant, and if he purchases a certain amount of merchandise during the year, the rack becomes his property. The method of handling the display rack with the merchant depends a great deal on the value of the merchandise displayed on the rack. The selling or loaning of the racks to a merchant always makes the merchant respect the rack more, and as long as he has any money tied up in them, or the rack belongs to someone else, he will see that it is kept in use and that he gets all the good out of it that he can.



Sheet metal display for transparent bags

There have been many novel schemes of display that have worked out satisfactorily. One manufacturer wanted to get a prominent display of his liquid cleaner. He knew that he could not get it displayed prominently without providing a rack, and even then he did not believe that the merchant would display his cleaner prominently without some further inducement. He finally provided a rack with his bottled cleaner attractively displayed in the bottom of the rack and the top of the rack was a good-sized basket in which the dealer could display anything he wished. This gave the dealer a floor display of any product he wishes to feature, and also gave the manufacturer of the cleaner a display directly under the product which the merchant was featuring. This particular type of rack would be worked out for a great many products, and would work to advantage for both the dealer and the manufacturer when displayed.



Wire display for bags

Transparent packages dress up a wide variety of prod-

SINCE 1915

Metal Litho

CORPORATION

BUSH TERMINAL NO. 19 168 39TH ST.

BROOKLYN, N. Y.

DECORATED TIN CONTAINERS

ucts but cannot accomplish definite results unless the packages are placed where they can be seen. Recently a large rack has been developed which permits the dealer to realize the maximum benefit from transparent packaging by creating a transparent package department in his store. A single unit under a recent test increased the sale of products on display 100 per cent. The test was made in several stores without any other promotion being given the product while the test was in the process of being made.

Often an attractive mass display may be secured with very little floor space required. A successful display was developed to display five varieties of flour which was packed in handy two-pound cloth bags with transparent cellulose wrapping. The five bags were neatly displayed on the top shelf and directly below were stacked twelve bags of the variety displayed above. The rack occupied only the necessary floor space that would be required if the five bags had been laid down on the floor side by side, yet the rack was rigid, collapsed for shipping, and was inexpensive.

Beverages have thirst appeal and, if properly displayed, sales increases are usually gratifying. A neat, safe mass display of bottles is difficult due to their shape and possible breakage. Many effective racks have been developed — pyramid displays, round and rectangular displays, all requiring a minimum of floor or counter space. One of the most popular is the pyramid floor display that holds the bottles in the most attractive angle, is collapsible for shipping and inexpensive.

Sheet metal rack for sheets and pillow cases

A display of a manufacturer's assortment always produces sales increases for each item in the assortment. Often a manufacturer is known for the quality of a single product, and, by associating all products, the public infers the same quality prevails throughout the line—which results in more sales on his less popular products. A round display of polish, cleaner and top dressing for autos for use in garages, and filling stations was effective. Empty cans were soldered to the rack. The top was removable and the base set over it for compact shipping. A similiar rack was made for a large manufacturer of marmalade.

A new package for oil immediately necessitated a new method of display. Oil in tin cans is becoming quite popular and it lends itself to display very nicely. Several types of racks have been developed that hold the can at an attractive angle and permit placing on the average filling station island.

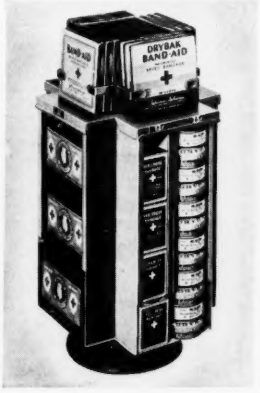
Multiple shelf counter racks that hold out candy bars in an inviting manner have been successful displays. These racks may be adapted to display most any small packages effectively. They are made in many sizes and shapes and all collapse flat so they may be shipped.

Rotating counter racks with projecting arms required little space and are effective displays for nuts, candy, potato chips, noodles, cake, confetti, and similar products that are packed in transparent bags. Several bags may be placed on each arm, thus carrying a good stock, and the display is not broken until the last bag is taken from each arm.

Display rack for spice cans

A small stairstep counter display is always good, especially if it pyramids a little for balance. This type of display has been used to increase sales on cigars, paint, flavoring, insecticide, greeting cards, literature, and similar items.

Spices are hard to keep straight on shelving, and it is almost impossible to stack them one on top of the other, without getting anything short of a mixed-up pile of small containers. A rack has been developed that will hold these small spice cans at an attractive angle and always keep them straight and orderly. This rack can be used on the shelving or can be set out on the counter when a dealer wishes to make a special on spices. The rack can be designed to display any other kinds of packages of a small dimension.



Sheet metal display for medicinal bandages

Self-service automatic displays that display and dispense packages with little more counter space necessary than if one package were displayed. These racks are filled at the top; the packages slide down and the bottom package projects out in front inviting one to take it. The stock is rotated and the oldest package is sold first. A similar rack has been an effective silent salesman for aspirin, soap, gelatin, spices, cheese, cookies and coffee as well as other like products.

Compact counter displays of bottled goods produce extra sales. Round bottle display produces attractive display from every angle, inviting you to help yourself. The displays are collapsible and inexpensive and require but small space when they are shown on the counters of retail establishments.

"Made to Measure"

PACKAGING

STAPLE THINGS • tho NOVEL in their presentation to the trade. "Tailored" Packaging to fit the contents, and to lure consumer eye and purse!

These smaller types of closure all come within the day of a great PACKAGING SERVICE. They claim a special skill in dramatizing staple products • in giving WINGS to SALES!

● Have you something that could be hastened into swifter selling currents?

NATIONAL CAN COMPANY · 'Inc.'

FOR OVER A QUARTER CENTURY • KNOWN AS METAL PACKAGE CORPORATION

EXECUTIVE OFFICES • 110 EAST 42nd STREET • NEW YORK

One of America's Largest Canmakers

SALES OFFICES AND PLANTS • NEW YORK CITY • BALTIMORE • BROOKLYN • CHICAGO • BOSTON • DETROIT • NEW ORLEANS

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TYPES AND USES OF GLASS CONTAINERS

BY T. K. ALMROTH

THE RECOGNITION of the glass package as one of the greatest creative sales forces of modern merchandising is becoming each year more apparent. More and more sales managers and other executives, after exhausting every other means that their ingenuity can devise to increase sales, turn to glass for packaging or effect an improvement in their present glass package and chalk up amazing sales increases where it seemed previously no further such increases were possible. What is this magic that is worked by glass? From what source does it derive its power to move the consumer to buy?

Certainly, we must credit *visibility* with a great share of the effectiveness of glass in selling many types of products. Since the earliest days of primitive trading in this country, the American buyer—man or woman—has been a shrewd buyer. From youthful trades made on the school playground to more serious trading of hard-earned money for life's necessities and luxuries, the instinct is strong in all of us to "see what you buy." It applies particularly in the case of food products and drinks. It is an important factor in the choice of a thousand other types of products in daily use.

Glass satisfies a deeply ingrained instinct to get one's money's worth. Glass is the only rigid material that displays the product while protecting it at the same time against spoilage and contamination. Not only does glass display the contents of a container, but by its clearness and brilliance it, in many cases, actually enhances the appearance of the product—displays it to best advantage. Glass gives a product "class" and suggests not only quality but cleanliness. The customer is bound to feel that a packer who puts his product out in the open—in glass—has nothing to hide.

In the case of many products visibility offers the further advantage of convenience. It is a distinct convenience to the user of any product to be able to see at a glance how large a quantity of any material is still on hand. It saves the consumer the annoyance of run-

From left to right: Gallon Packer, Water, Miscellaneous Food, Preserve, Milk

From left to right: Mayonnaise, Cream, Medicine, Prescription, Polish, Atomizer, Perfume

Types and Uses of Glass Containers — Glass Finishes for Closures — Closures — Vapor and Vacuum Sealing — Sealing Compounds for Containers — Liners — Private Design Molds

Glass & Closures

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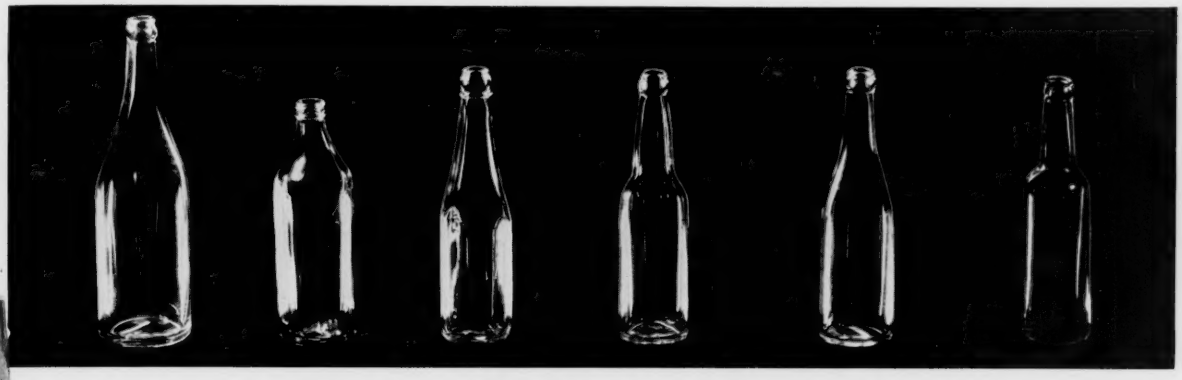
From left to right: Soda, Sauce, Cherry, Extract, Miscellaneous Proprietary, Horseradish, Toilet

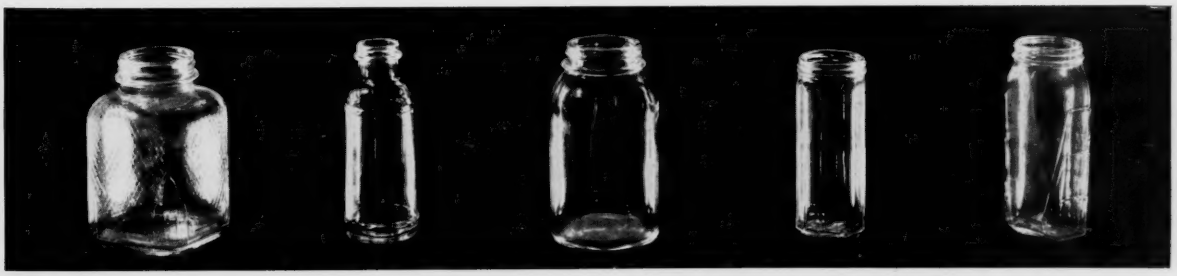
ning out of something essential at an awkward time. The reminder to re-order that is a function of the transparent glass container, not only pleases the consumer in this way, but may also add thousands of units to the sales of any packer in a year's time.

Where visibility is not an important factor in the sale of a product the attractiveness and individuality possible in glass make the glass container still a most potent sales force. Design in glass containers has advanced in recent years in enormous strides. Distinctive appearance is achieved in an almost unlimited number of ways in glass. Possibilities of interesting and unique package design have been enormously increased through the tendency of packers to place the entire packaging problem in the hands of a single supplier who can unify all the elements of container, closure, label, carton and shipping container. Design in such a case can now be relied upon to conform to the product, to have eye-appeal, the suggestion of cleanliness and convenience. Closures are more certain to fit. Labels are modernized and suited to proper display. Processing as well as merchandising is facilitated.

The designer who has all these factors in his control can achieve an unlimited number of pleasing combinations of line and color. He has an almost limitless range of shapes at his command. Strictly modern designs have been produced in amazing variety with a highly developed technique in which simplifications and effectiveness are conspicuous. The designer can apply suitable line and color to his label to assure conformity. In the glass itself he has all the usual colors at his command—flint (clear), amber, blue, light green, emerald green, black, opalescent, and a special new imported shade of green. He can give an individual touch to designs that have become traditional for certain types of products. He can modernize an old and prized design



From left to right: Grape Juice, Vinegar, Catsup, Beer, Porter, Ale



From left to right: Coffee, Chili Sauce, Mason, Honey, Miscellaneous Food

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An innovation during 1935 in the glass container field was the "Stubby" non-returnable bottle offered to the brewery trade. Compact and of lighter weight but having the same capacity as the standard beer bottle, this new type won ready acceptance as a non-returnable container. Comparative tests in handling and shipment showed its desirability under many conditions encountered in the brewing field.

to gain the advantage of improved technique without losing the spirit and prestige of the old-style container.

The entrance of automatic machinery into the glass industry has so reduced the cost of glass containers that almost any type of glass package is within easy reach of the average manufacturer. In the field of drugs, pharmaceuticals, beverages, milks and foods, such as catsup, vinegar, sauces, salad dressings, pickles, peanut-butter, honey, etc., the glass container has long had first place. It is now extending its merchandising advantages to many products never before packed in glass.

Even in the field of vacuum packing, the development of new machinery has given glass an advantage. The rigidity and strength of the glass container enable it to take an exceptionally high vacuum which makes it particularly suitable for the packaging of such products as coffee, tea, spices and numerous other foods in which the preservation of strength, aroma and freshness is an important factor in repeat sales. Such glass containers also offer the advantage of being susceptible to tight re-seal for preservation of freshness during the period of use.

The fact that consumers everywhere have perfect confidence that glass can have no ill effects upon the contents of a package gives glass containers an added attraction. Consumers feel that foods in glass need never be transferred to other receptacles after being opened. Glass containers for foods in many instances offer an additional sales inducement in that they can be placed directly on the table. In the case of beverages the original glass bottle is everywhere "accepted socially" for direct individual service in dining room or living room. Many glass containers also have an obvious re-use value. Many jars may be used for storage of supplies or home-preserving. Others serve as decanters.

The glass tumbler has of late become extremely popular for the packaging of foods, most housewives considering such a container an attractive premium.

With the perfecting of new moderate-cost processes for the application of color to glass, the glass container has taken on new merchandising possibilities in many fields. Labels, names and trade marks are now fused directly into the surface of the glass. Advertisements of allied products are carried on reverse sides of packages. In a similar fashion an almost unlimited range of colors and shades thereof can be applied over the entire surface of the glass.

The impression that anyone gets from a close study of glass container possibilities is mainly that of extreme versatility. A glass package can apparently be created that will perform almost any function that may be desired of it in the field of merchandising.

While the use of glass containers is constantly expanding into new fields, those most familiar in everyday life may still be grouped in four broad divisions—food containers, beverage containers, medicinal and toilet preparation containers, and general purpose containers. In these groups there are, in turn, numerous sub-classifications, a brief summary of which follows:

Types and Purposes

1. *Food Containers*
   - (a) Milk bottles: For milk and cream. (Blown lettering or applied color lettering.)
   - (b) Narrow-neck blown bottles: For catsups, chili sauces, table sauces, vinegars, salad dressings, syrups, condiments, spices, salad oils, oyster cocktails, etc.
   - (c) Wide-mouth blown bottles: For jams, preserves, mustards, candy jars, cherry bottles, olive bottles, pickle bottles, crushed fruit jars, horseradish bottles, mayonnaise jars, vegetable jars, meat jars, salt and pepper shakers (when sold to packers), etc.
   - (d) Pressed ware, tumblers: Used largely for jelly, peanut butter, marmalade, cottage cheese, grapefruit juice, and some meat products.
   - (e) Jars for vacuum packing of coffee, teas, etc.

2. *Beverage Containers*
   - (a) For carbonated beverages, such as sodas, ginger ales, malt extracts.
   - (b) For cereal and malt beverages. (Standard beer bottles, and new non-returnable beer bottles.)
   - (c) For non-carbonated beverages, such as fruit juices and still water.
   - (d) Liquor ware. Wine bottles.

3. *Bottles and jars for medicinal and toilet preparations.* (Both pressed and blown).
   Medicine bottles, druggists' prescription ware, bottles for pharmaceutical preparations and use of manufacturing chemists, containers for toilet preparations, cosmetics, peroxides, citrates, hair tonics, pomades, liniments, cold creams, vaselines, face creams, perfume, toilet water, lotions, talcum powders, castor oil, flavoring extracts, sterilizers, nursing bottles.

4. *General Purpose Containers*
   For acids, cleaning fluids, polishes, paints, shellacs, varnishes and stains, ammonias, inks, mucilages, battery jars, soap globes, tamper-proof oil dispensing bottles, reservoirs for oil stoves, fire extinguishers and other special items.

XUM

Choose

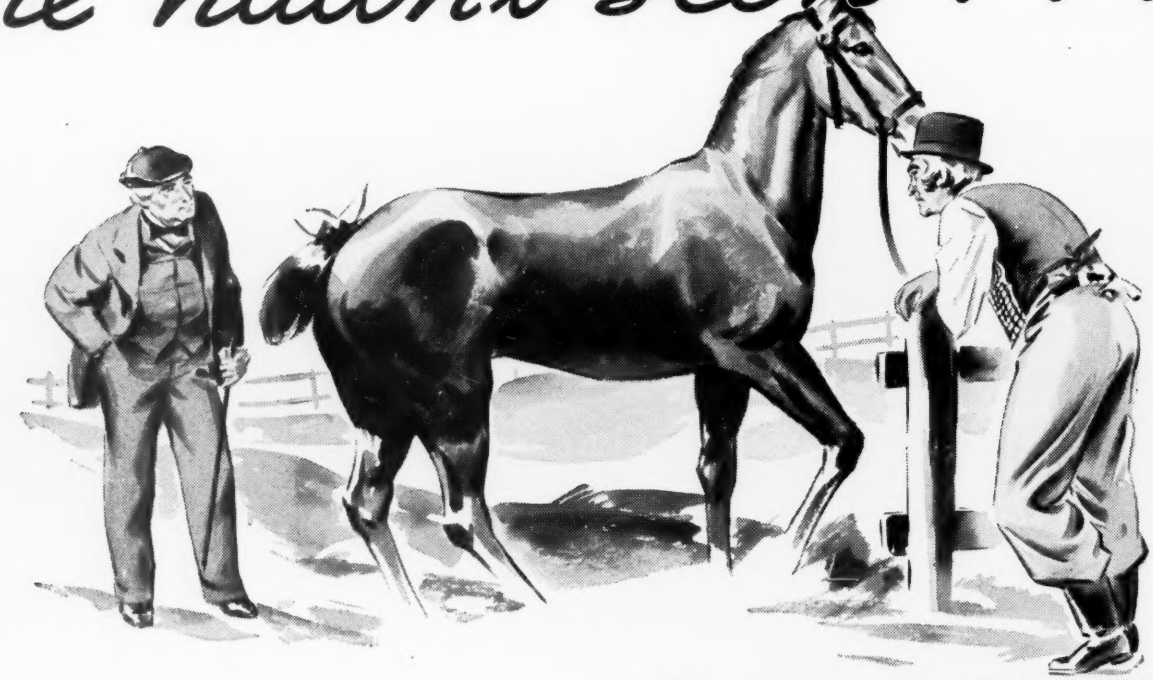
THE ROAD THAT HAS NO DETOURS WHEN YOU ARE GOING TO MARKET IN GLASS

● By virture of a Complete Packaging Service that makes containers, closures and cases all available through one responsible source of supply, Owens-Illinois helps you to get more satisfactory results on a more economical basis. Through its Packaging Research Division, this company also provides further services designed to increase profits for those who pack in glass. They are unique with Owens-Illinois and are offered cost-free in most cases, to its customers and to others who feel that an intelligent, impartial survey of their situation may lead to improvement. Perhaps some problem that baffles a less diversified laboratory may be solved and the answer in our files. Endless effort makes available a constant succession of new developments that cover every phase of packaging in glass. With offices located in every principal city this service is as close to you as your telephone. Simply call our nearest office. Owens-Illinois Glass Company . . . . Toledo, Ohio.

OWENS-ILLINOIS Owens-Illinois supplies modern glass containers and cases for every type of product—also closures by The Closure Service Company.

DAVID HARUM

never bought a horse he hadn't seen . . .



OWENS

XUM

● David Harum, though he lived in fiction, stands as a symbol for keen and canny trading. But the average woman of today would make him seem a wide-eyed babe in arms. She goes to market with her bargaining instinct whetted to a razor-edge; compares the hundreds of competing products that clamor for her trade and says "prove it" before she parts with a penny. The natural result is that thousands of manufacturers of all types of commodities have found that the best and surest way to meet this "show me" attitude on the part of the public is to actually SHOW THEM. The logical medium to accomplish this, of course, is the modern glass container. If you have not kept abreast of all the developments (and it would be hard to do so because improvements follow so hard on the heels of each other) you cannot conceive of the many advantages glass can offer you. Whether you now pack in glass or are still putting off the day you'll change, conversation with the Owens-Illinois representative should prove both interesting and instructive. Simply call our office in any principal city.
Owens-Illinois Glass Company, Toledo, Ohio.

-ILLINOIS

● These are but a few of the hundreds of stock designs available from Owens-Illinois, and our Design Department is constantly at work creating containers to meet new requirements . . . Caps by The Closure Service Company.

These closures will be a

VITAL FACTOR

in 1936 sales

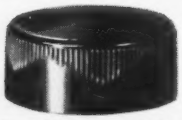
● **Here is our Closure Service Packaging Show for 1936. The completeness of our line is a definite resource for modern packagers. Quality of materials, accuracy and uniformity in manufacture and facilities for prompt shipment at any season may be taken for granted when you deal with The Closure Service Company. In addition, our technical collaboration with the Owens-Illinois Packaging Research Division places at your disposition a widely experienced and highly trained laboratory staff ready to help your own technicians achieve the most effective and economical procedure for packaging in glass at increased profit. Obtain information from any branch office of Owens-Illinois Glass Company, or write to The Closure Service Company, Toledo, Ohio, a Subsidiary of Owens-Illinois Glass Company.**

Narrow-Mouth CT Cap giving dependable service on many products.

LUSTRSEAL—The ultimate in molded cap design and manufacture.

No Knurl—Single-Shell cap of high quality. Fine low cost closure.

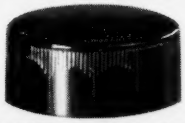
SENTRY SEAL providing 100% tamper-proof protection for liquors, wine, etc.



SMARTOP (molded)—The choice of many discriminating users of black plastic closures.

GRIPSEAL—the new fluted Caseal cap in bottle sizes. Both decorative and convenient. Helps build sales records.

Narrow-Mouth CASEAL giving the added note of simplicity, elegance and quality that attracts customers.



PLASTYLE (molded)—Helping produce and maintain sales for many popular medicinals and proprietaries.

KNIFE-OPENING cap for easier opening and secure reseal of food products. Vacuum and non-vacuum types. Cut rubber on other type liners.

Wide-Mouth CASEAL—Adding the final touch of elegance for jar-packaged cosmetics and proprietaries. Two-piece—with patented rolled edge.

Wide-Mouth C.T. Cap with a long record of reliable service in building sales for many types of products. Handsome, lithographed or plain.

CLOSURE SERVICE

XUM

Advantages of Glass

The glass container possesses many marketing advantages from the standpoint of the packer and bottler. A few of these advantages are listed below. Their sequence of importance depends upon the product.

1. The glass container is the most sanitary container. Foreign substance of any kind can be readily detected through such container.

2. The glass container places delicate foods and drinks in the consumer's hands free from all foreign tastes and flavors.

3. The development of automatic machinery makes it easy to pack a product in glass.

4. Transparent containers guarantee 100 per cent inspection, thus establishing public confidence.

5. In revealing everything as it is, the glass container gives the packer full credit for his use of high-class raw materials and superior packing methods.

6. The glass container helps sell its contents; it is the "silent salesman."

7. The packer is protected in that if there are any imperfections in the product or mistakes in labeling, they can be detected while in his hands.

8. Since color is a potent factor, the transparent glass container packed with a colorful product offers unusual opportunities for the use of attractive labels.

9. The glass container has the best psychological background. From the nursing bottle through childhood to old age, glass stands for purity and sanitation in everybody's mind.

10. The housewife is already sold to the idea of glass for home preserving. Thus, she is a ready prospect for goods marketed in glass.

11. The demand for greater variety of products in glass is rapidly increasing.

12. The glass container lends itself to individuality in size and shape; hence, it is adaptable to many products.

13. Modern glass containers possess great tensile strength, withstand the heavy shocks incident to shipping and handling, and can be subjected to very high temperatures in processing (cooking).

14. Various products can now be vacuum packed in glass to definite advantage.

15. Many glass containers are valued in the home for re-use as pantry jars and for home preserving.

16. The applied color process can be used to fuse the name of the product, the trade mark and other designs into the glass, eliminating labeling if desired.

17. The manufacturers of glass containers and closures are glad to cooperate with the packer. They are squarely behind their product and their customers.

The Glass Container Association of America, 19 West 44th St., New York City, is at the service of packers and bottlers requesting information upon glass containers, closures, machinery and equipment and special bottling problems.

TYPES AND USES OF GLASS VIALS

BY WARREN S. HOOD

GLASS VIALS and other small glass containers owe their unusual uniformity of wall thickness and diameter to the fact that they are entirely automatic-machine made. They are fabricated from machine-made glass tubing automatically drawn from a specially designed continuous furnace. Their uniformity assures the greatest possible regularity in size and accuracy of corkage. Thorough annealing assures maximum strength and durability, and being "strain free" and sturdy, such containers carry their contents with complete safety.

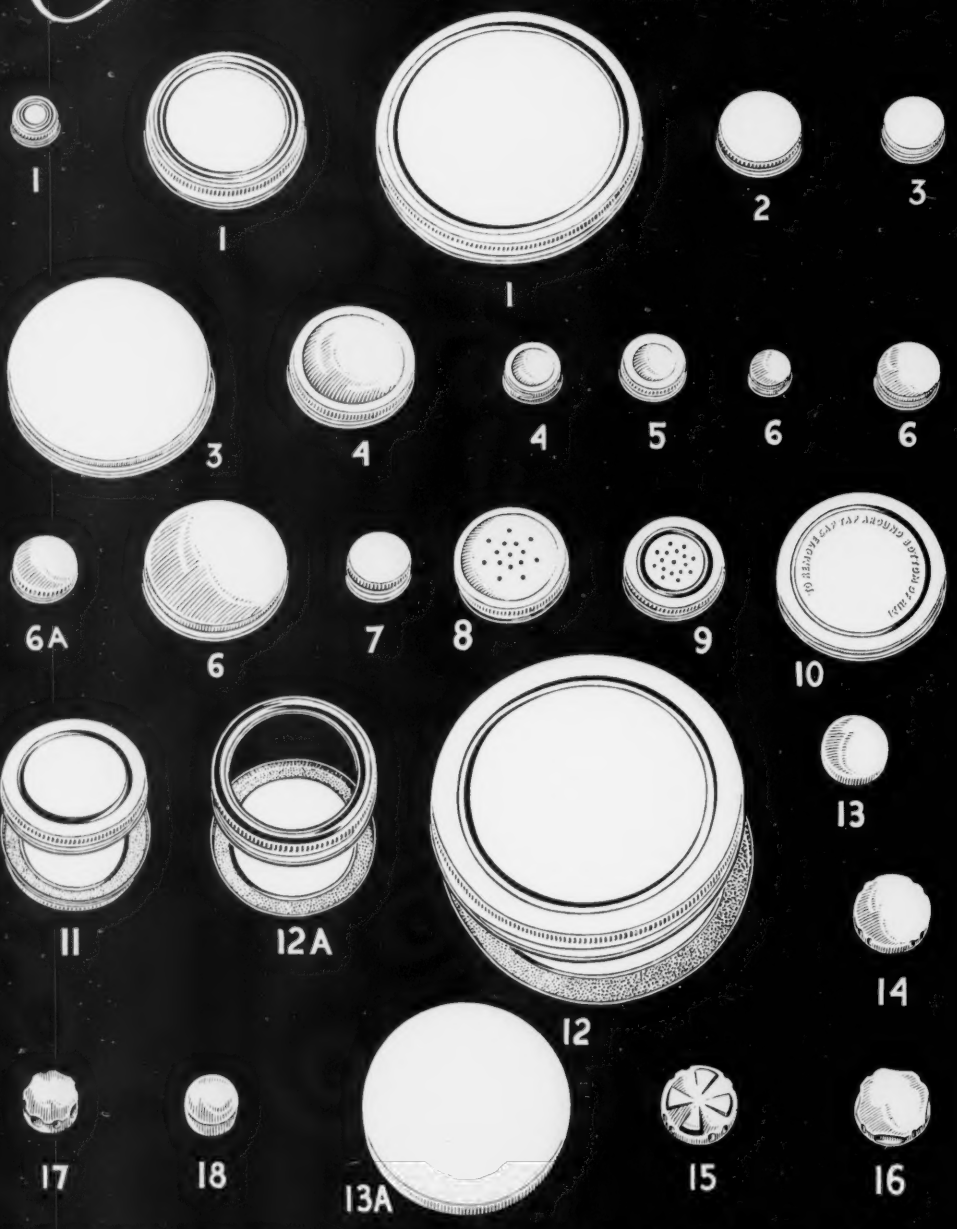
Manufacturers in the pharmaceutical, perfume and kindred fields have made use of vials because of the wide variety of designs, sizes and closures they offer. There are, for instance, patent lip vials using a cork closure; Re-Seal-It vials with a tear-off sealed closure; shaker-top vials for powdered products; screw cap and slip cap capsule vials; dropper vials for nose and throat remedies, applicator vials for antiseptics, corn liquids, etc. Many other types and colors of caps or closures are available for vials. These range from plain corks and corks with plastic molded tops, to fancy colored metal screw caps and vari-colored molded closures.

The practice of sampling packaged products has always played a valuable part in sales and advertising activities. It is an old, established system that has today taken on new importance. To all parts of the world are rushed packaged articles—large and small, old and new, known and unknown—to find new markets, new sales, and new acceptance among millions of consumers, jobbers and dealers. Sampling is the quickest and surest way to get your products directly into the hands of the ultimate consumer.

It is surprising to learn how advantageously sampling is used for widely different merchandise. A ceramic company sends out bits of colored tile to contractors and builders; a coffee roaster sends out samples of whole coffee beans, or powdered coffee; a coal company mails samples of pea coal and buckwheat coal to prospective users; a famous maple extract company sends out glass vials containing their syrup. A prominent pharmacal

XUM

Closures FOR EVERY PURSE AND PURPOSE



SEND FOR A FREE WALL CHART

THERE'S a big, helpful ARIDOR Wall Chart (shown above in miniature) waiting here for everyone responsible for the selection and purchase of Caps. On your office wall it will tell at a glance the kind of closure that will serve to best advantage for practically every sealing job. Popular sizes kept in stock ready for immediate shipment are indicated. ARIDOR makes exceptionally good metal caps in a big variety of styles, sizes and colors, plain or decorated. Whether your needs call for ten thousand or ten million, you'll like the quick efficient service ARIDOR gives. Write for your chart NOW. Company stationery please.

The ARIDOR Co.
3428-40 West 48th Place Chicago

1. Standard C-T and D-S, With-Knurl
Stock: all standard sizes; in Gold, Red Lacquer, Blue Lacquer, White Coat, P & O or P & V liner, to 33 M/M; Gold Lacquer, White Coat, P & O liner, 38 to 120 M/M, B to K.

2. Flat-Top With-Knurl, C-T and D-S
Tools for 18 to 48 M/M, 53 to 63 M/M, 70 to 89 M/M, B to G; ★

3. Flat-Top No-Knurl, C-T
Tools for 24 to 120 M/M; ★

4. Part-Dome No-Knurl, C-T — Tools for 24 to 48 M/M, 53 to 70 M/M; ★

5. Half-Dome With-Knurl, C-T
Tools for 28 M/M only; ★

6. Full-Dome No-Knurl, C-T — Tools for 18 to 58 M/M, 63 to 70 M/M. Stock: 18 to 33 M/M, Black Coat, P & V liner.

6-a. Full-Dome With-Knurl, C-T
Tools for 28 and 51 M/M only; ★

7. Medium Deep C-T, With-Knurl
Tools for 28 M/M only; ★

8. Perforated C-T, Part-Dome With-Knurl or No-Knurl
Tools for 38, 48 M/M; ★

9. Perforated C-T, Flat-Top With-Knurl
43, 53 M/M, 48 M/M with cheese perforation; ★

10. Tumbler Cap
Stock: 58, 73, and 63 to 75 M/M, White Coat, P & O lined.

11. One-piece Vacuum, With-Knurl, C-T and D-S — Stock: 53, 58, 63, 70 M/M, F, G, White Coat, Compo liner.

12. Two-piece Vacuum, With-Knurl, C-T and D-S — Stock: 38, 48, 53, 58, 63, 66, 89, 100, 120 M/M, B, F to K; Gold, White, Compo liner.

12-a. Two-piece Vacuum, With Knurl, Cut-out Top, D-S — "F" and "G" only, Stock: Gold, Compo liner.

13. Standard I-T — Domed
Stock: 18 to 38 M/M, Black Coat, P & V or P & W W liner.

13-a. Standard I-T—Flat Top — Stock: 40 to 100 M/M, Black Coat, P & WW liner.

14. "Capital" I-T — Stock: 28 M/M only; Black Coat, P&V liner.

15. "Coronet" I-T
Tools for 28 M/M only; ★

16. "Squaretop" I-T
Tools for 28 M/M only; ★

17. "Squaretop" Medium Deep I-T
Tools for 20 M/M only; ★

18. Standard Round Medium Deep I-T
Tools for 18 and 20 M/M; Stock: 20 M/M, Black Coat, F & B liner.

Caps not normally stock items will be manufactured to order in various minimum quantities. Unsurpassed facilities for lithographed, colored coats, debossed and embossed caps available. Also a complete assortment of lining materials for special requirements.

Medium Deep Caps fit GCA No. 410 finish.

Standard M/M sizes (C-T) are as follows: 18, 20, 22, 24, 28, 30, 33, 38, 40, 43, 45, 48, 51, 53, 58, 60, 63, 66, 70, 73, 83, 89, 100 and 120 M/M. 73 M/M, Tumbler Caps only.

Standard letter sizes (D-S): B, C, D, E, F, G, H, I, J, and K.

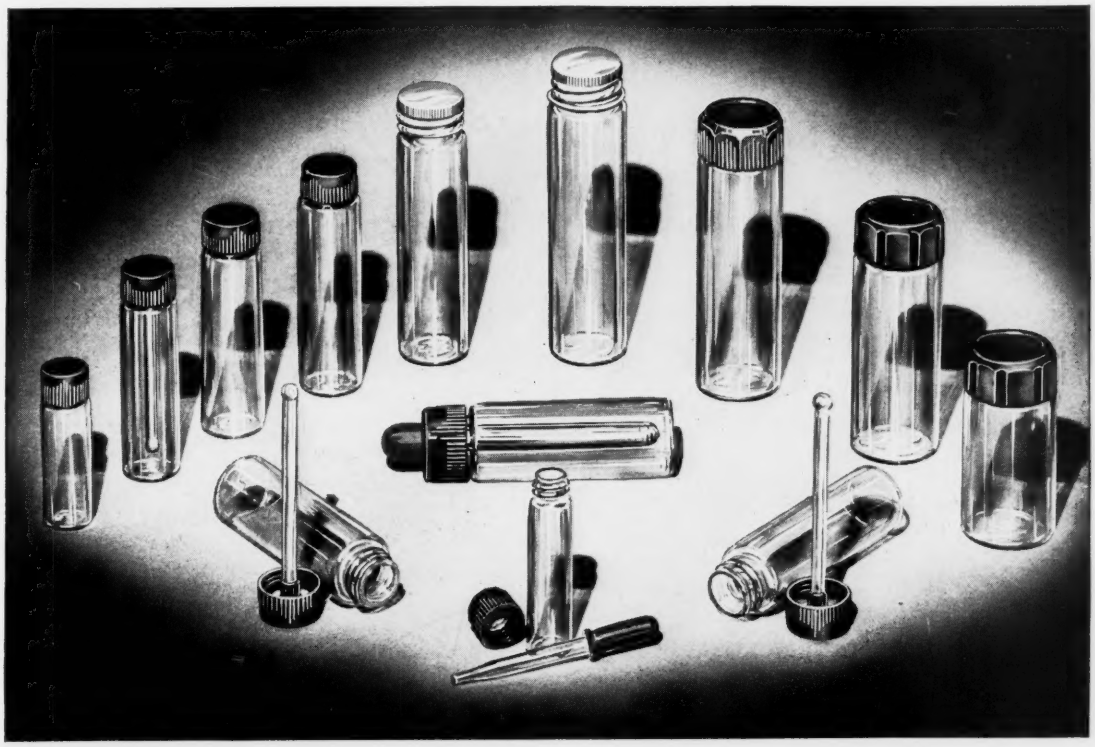
ABBREVIATIONS:
★ = Not stocked
I-T = Inner Thread ("double shell")
C-T = Continuous Thread—GCA No. 400 finish
D-S = Deep Screw—GCA No. 450 finish.
P&O = Pulp and Oil
P&V = Pulp and Vinylite
F&B = Felt and Blackol
P&WW = Pulp and White Wax

XUM

company issues sample vials of laxative powder, headache tables, and throat lozengers.

Foremost among the successful carriers of today's sampled and packaged products is the glass vial which has become, in many instances, first choice of leading manufacturers of drugs, perfumes, proprietaries, pharmaceuticals, toiletries and other products which lend themselves to being sampled in small containers.

Glass vials are also being effectively employed in combination packages, where a small sample of a different product is enclosed with the regular size package of the main article. Sample sizes of many products are now being packaged in vials and sold for 10 cents a package



Glass vials with molded and metal screw caps, also applicator caps. Courtesy of Kimble Glass Company

in thousands of chain stores throughout the country. In this way the sampling campaign more than pays for itself and hundreds of new products are introduced to the public, helping the sale of the regular size package.

"Custom-made" vials and closures of unusual and special design are constantly being designed and made for sampling purposes, and for the packaging and bottling industries.

Standard vials are suitable and practical for a great variety of products in the food, drug, cosmetic, oil, paint, and other industries. A few of the many uses to which these vials are put are listed here:

Pharmaceuticals

Chemicals
Embalming Fluids
Hair Dyes and Preparations
Effervescent Salts
Shampoos
Bromide Tablets
Serenium Tablets
Moth Exterminators

Pharmaceuticals (Continued)

Tablets
Essential Oils
Ligatures
Pills
Capsules
Novocain Solution

Cosmetics

Creams
Lotions
Perfumery
Toilet Preparations
Barber Supplies
Bath Salts
Bath Tablets

Miscellaneous Food Products

Salad Oils
Salt
Flavoring Extracts
Honey
Malt Extracts
Spices
Vinegar
Food Relishes
Food Colors
Vanilla Beans

Meat Products

Extracts
Broth

Syrups

Honey
Maple
Corn
Fruit

Confections

Cake Decorations
Candy

Specialties

Ammonia
Bluing
Sewing
Lacquers
Liquid Soap
Lubricating Compounds
Boiler Cleaning Compounds
Malt Specialties
Bronze Powders
Toothbrushes
Cleaning Compounds
Glue
Soups (beef bouillon)
Inks
Paints
Shellac
Pastes
Manicure Aids
First-Aid Supplies
Developers (Photography)
Lead Acetate Test Paper
Dental Floss
Menthol Inhaler
Beverage Tablets

Proprietary Medicines

Bird Remedies
Bitters
Tonics
Antiseptics

Proprietary Medicines (Continued)

Dog Remedies
Rat Exterminators
Disinfectants
Cough Remedies
Liniments
Ointments
Corn Cures
Toothache & Earache Drops
Egg Dyes
Styptic Pencils
Skin Lotions
Toothache Gum
Dentifrices

Advantages of the Glass Vial for Sampling and Packaging

A "silent salesman" that effectively displays the product and attracts valuable attention.

Perfect transparency makes it a miniature show window for the contents within.

Products of various sizes and colors may be distinguished instantly.

Delicate articles and perishable foods reach the consumer untouched and free from contamination.

Colorful caps or closures may be employed to distinguish the product and stimulate sales.

The clarity, brilliance and sanitary qualities of the glass vial enhance the value and appeal of the product.

The vial lends itself to attractive labeling and packaging—an important asset in every merchandising plan.

Standard vials are strong, leak-proof, durable and assure complete safety and travel to the contents.

A valuable medium for dispensing samples at expositions, food shows, conventions and medical clinics.

Light in weight, economical to ship. Their attractiveness, dainty appearance, and convenience in carrying on the person or in the handbag, win consumer approval and preference.

SEALING COMPOUNDS FOR CONTAINERS

BY R. J. GRAY

CONTAINER EFFECTIVENESS is largely dependent upon the sealing medium employed. And the word "effectiveness" is used advisedly, because upon the proper functioning of the seal hinge four of the most important requisites of package salability:

First: That the contents be sealed securely against leakage from within or infiltration of air or foreign materials.

Second: That the contents be protected from contamination by the sealing material itself.

Third: That the package be kept fresh, tidy, and appealing during its journey from the manufacturer to the ultimate consumer.

Fourth: That the package is opened quickly, easily by the customer, to encourage repeat sales and build consumer goodwill.

These factors apply from the lowliest paper container to the most expensive vacuum packed coffee or to the vacuum packing of mayonnaise in thin tumblers.

The sealing media employed for most of the simpler packages are of such long standing as to be quite generally understood but there is a rather widespread lack of knowledge on the newer types of closures probably because of the fact that the beauty of the package itself dominates the attention to the exclusion of any thought as to the nature of the sealing media employed.

Originally the seal used for tin containers was made hermetically tight by soldering, but this method is cumbersome, does not lend itself to high speed packing and, in some industries, tends to contaminate the contents because of the soldering flux residues that may be present. Although there is still a large field for an all soldered tin can in certain limited fields, today the bulk of the packaging in tin is done in cans which are sealed by double seaming the ends.

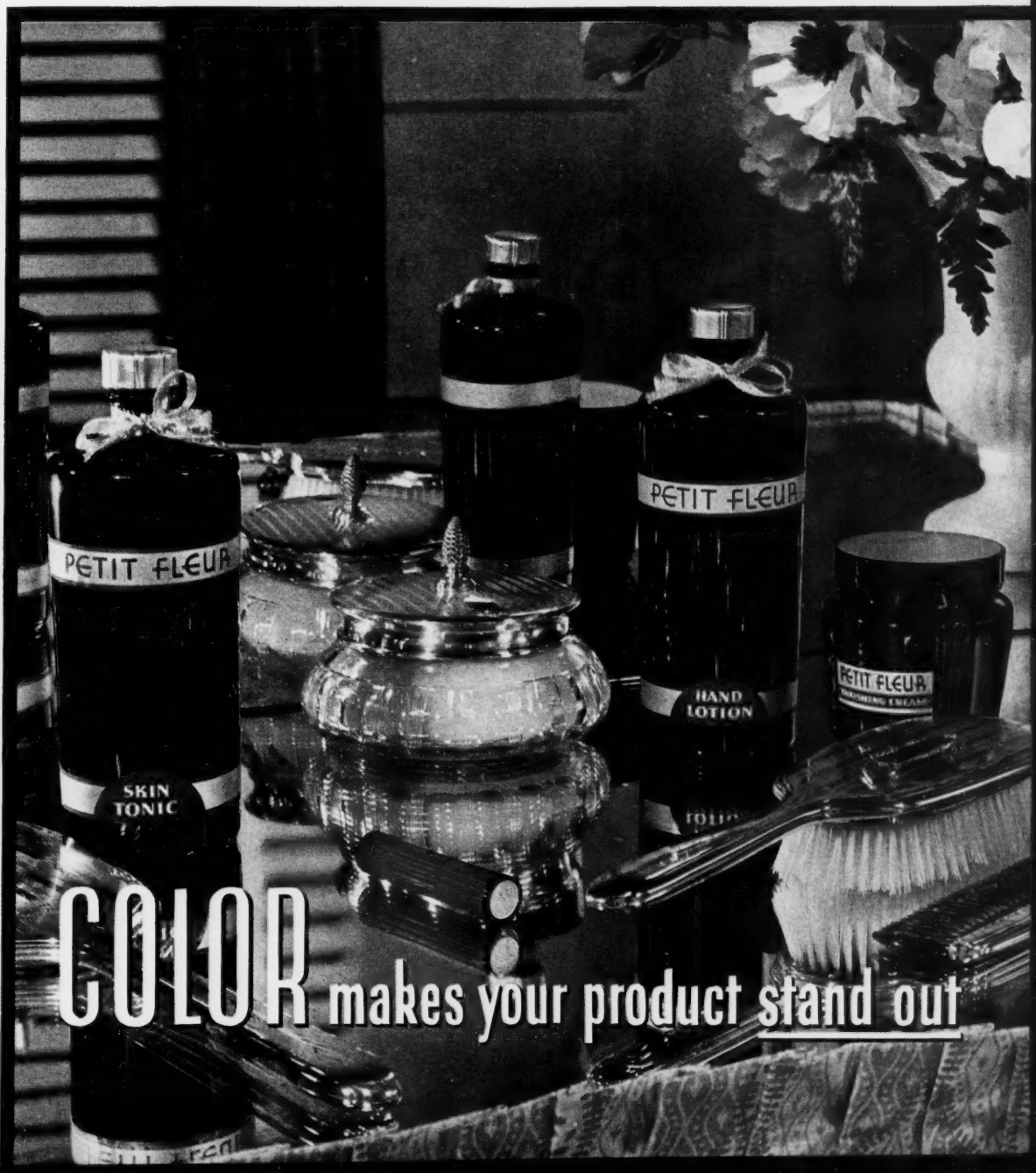
In speaking of double seaming, it is meant that the cans are supplied to the packer with open tops and that, after filling, the covers are attached to the bodies of the cans by a tight interlocking junction that is rolled by machine. It is obvious that any such mechanical folding of metal requires some sort of gasket to take care of the many little inequalities in the thickness of the metal as well as the variations in the machine action. In addition, the gasket material must have the necessary chemical and physical properties to prevent contamination of products packed in the tins. As the great bulk of tin containers is used primarily for food products, the seals must be able to withstand pressure as well as high vacuums. The material best adapted to these needs is rubber in some of its forms.

At first, formed rubber or "Gummi" rings were used but they have long since been discarded because of undesirable bulk they gave in the seam and poor aging qualities which led to serious food spoilage. Following them came the solvent solutions of rubber. These had many weaknesses, principally the low film weights that could be obtained on high speed machines plus the danger factor of using any form of kerosene or petroleum distillate around food products which might leave taste and taint.

Today practically all sealing compounds are made from rubber latex. In this form there is a water emulsion which is non-inflammable and non-toxic, eliminating the fire, explosion and poison hazard of the former compounds. In addition, they contain high rubber solids which provide thicker gaskets of resilient rubber

MARYLAND

Blue BOTTLES



COLOR makes your product stand out

XUM

COLOR makes your product Easy to See

COLOR makes your product Easy to Remember

COLOR inspires confidence in its Quality

COLOR helps to insure Repeat Sales

COLOR gives your product a Distinctive Appearance

COLOR gives your product Better Display

COLOR makes your product Smart—Modern

COLOR Advertises your product in the home

WHY not let us tell you more about the very definite Sales Advantages of Color. Or, better still, let us send you samples so you can see how attractive your product will look in Blue. In requesting samples please tell us the nature of your product and the capacities in which it is to be used. ● Maryland Glass Corporation, Baltimore, Md. New York Representative: 270 Broadway, New York City. Pacific Coast Representative: Owens-Illinois Pacific Coast Company, San Francisco.

MARYLAND *Blue* BOTTLES

Maryland Green Tint and Flint Bottles are of the same high quality as Maryland Blue

The Perfect Closure

VACUUM SEALING SERVICE

Leading food packers recognize the definite food preserving and sales advantages of having their products vacuum sealed with WHITECAPS. . . . WHITECAPS are the perfect closure for Vapor or Mechanical high speed vacuum packing. They provide maximum security for the product—yet are the simplest closures to open and reseal hermetically. . . . White Cap Vapor and Mechanical Vacuum High Speed Machines are offered to meet all production requirements from the smallest to the largest.

Complete engineering service available for any packaging problem

WHITE CAP COMPANY

New York CHICAGO London

W H I T E C A P S

plus inherent favorable aging characteristics that are desirable in this type of work.

With the development in the art of manufacturing tin containers, necessary changes in the sealing compounds had to be made in order that they might be placed into the covers at a high speed. When one considers that can ends are lined at the rate of 350 to 500 per minute on a rapidly revolving turret, it is easy to appreciate the control that must be exercised with fluidity, plasticity, viscosity, etc., of the sealing compound to offset the high centrifugal speeds encountered. In this lining operation, the can ends automatically feed to a chuck which revolves underneath the nozzle. After a predetermined amount of liquid rubber has been placed in the end, the covers are piled in stacks and placed in driers to remove the moisture. The lined ends are then ready for their useful work.

Reference has been made to the fact that the nature of the product to be packed had a definite bearing on the sealing medium used. Food products quite generally take one general type of compound; oil and oil base products require an entirely different type; and the successful dry-vacuum packs, such as coffee, etc., require still another type of compound. However, because of the vast amount of research expended on these seemingly insignificant films, the art has been so well studied that today it is actually possible to seal under pressure highly poisonous gases, such as hydrocyanic gas, without danger of their leaking in transit or storage. This is indeed a high tribute to both the can-making art and the sealing media used.

It is interesting to note that even with double seamed tin cans easy opening is again playing an important role in the expansion of the market for packaged goods. For example, it required the development of a key opening vacuum can to permit the wide expansion of the ground coffee market. Even in the case of beer, it has been necessary to develop a quick opening can opener to permit the ready opening of the package to insure its consumer acceptance.

In packing in glass, however, the sealing media plays an even more important role than it does in the case of the tin can. It is not practical to close a glass jar by fusing on a glass top for many obvious reasons. Therefore, its real expansion and development waited for the development of suitable resilient liners that would permit the packaging of material in glass under vacuum, pressure, and processing. It was natural, of course, that the first step should be to adopt the common rubber ring that had been used for years in home canning as a sealing medium. This, however, brought problems of its own, such as hardening and aging of the rubber, a large inventory of different sizes, sticking the ring in place in the caps, having the proper springiness to meet the uneven edges of the glass. Further trouble was also encountered with the rubber rings sticking to the glass jar upon opening and, far more, difficulty in opening it at all. Both of these were highly objectionable to the ultimate consumer. For these reasons, the rubber ring to a large extent has been supplanted by a flowed-in film of carefully compounded rubber. This film is uniform and plastic enough to deform and take care of the inequalities of the glass surface (yet with an ultimate resiliency which prevents cutting through of the film) and to give a seal which meets the demands of safe, sure, dependable seals that permit easy opening by the final user.

Again with these seals, the nature of the compound must be varied to the needs of the material packed. Packs requiring heating in excess of 212 deg. for sterilization demand a different type of seal than those of a cold pack. Where an oily product is to be held, yet another type of compound is required—one that will resist the solvent action of the oil.

For the successful development of the one piece screw cap, it was necessary to make the film self-lubricating so that a vacuum pack could be used yet still permit easy opening because of the slippery nature of the sealing film, once more building customer acceptance and repeat sales by making the package easy to open.

With the development of these new flowed-in gaskets, a wide field of application of varying types of closures and styles of containers was opened up to the glass industry. For example, these soft plastic films allowed the introduction of thin blown glass tumblers for packing. Here utility, as well as eye-appeal, was employed to further the expansion of the glass pack market. Seals that were formerly hard to open and created a definite consumer antagonism to glass packing have been redesigned to take the newer flowed-in gaskets which permit easy opening.

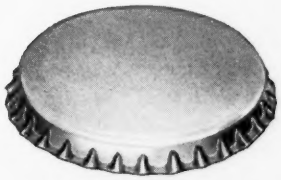
In all this expansion of the use of glass containers, the flowed-in sealing film has played an important role because it follows the four requisites mentioned, to wit: To seal the package safely to prevent leakage either outward or inward, to avoid contamination from the sealing medium itself and by easy opening, to create consumer interest, resulting in repeat business.

Another new development in sealing media comes in the field of the five-gallon pail. Vulcanized, preformed rubber rings have been used quite extensively but their use has always called for a large inventory of many sizes of rings, always subject to hardening in storage. Besides these rings had to be stuck or glued into the cover, which was at best a makeshift process and caused frequent annoyance due to the ring falling out of the cover. And also, with the expansion of the use of this pail for light colored paints, lacquers, and solvents, the black pigmenting materials commonly used in vulcanized rubber rings backed out and contaminated the contents of such pails.

A recently developed flowed-in gasket compound is meeting with increasing acceptance in this field because it overcomes the weaknesses of the previous gasket. A single inventory on one type of liquid can be used for any size of pail. Since the gasket is flowed into the pail cover, it dries to become an integral part of the cover and does not fall out in transit. The film formed is multi-cellular in cross sections, giving an easily deformable film to allow safe, sure sealing.

XUM

CCS CROWNS



CCS AXA CROWNS

Not one Universal Closure

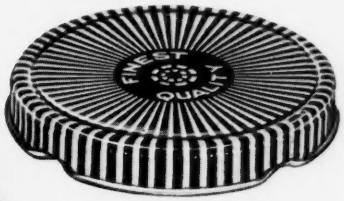
but A BETTER SEAL for each GLASS PACKED product

EVERY product to be packaged presents a different sealing problem. And no one cap works satisfactorily under every packing condition. Among the various types of CCS Closures is one that exactly suits your requirements.

There is a CCS Representative conveniently near you. Call on him at any time. He places at your disposal the most modern facilities and the sealing experience of nearly half a century.

CCS SCREW CAPS
Single and Double Shell

CCS MASON CAPS



CCS LUG CAPS

CCS VPO
HERMETIC SEALS

CCS TWO-PIECE CAP

A FULL LINE OF CROWNING AND CAPPING MACHINERY ★

BRANCH OFFICES

ATLANTA, GA.
BOSTON, MASS.
BROOKLYN, N. Y
CHICAGO, ILL.
CINCINNATI, OHIO
CLEVELAND, OHIO
DALLAS, TEXAS
DETROIT, MICH.
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JACKSONVILLE, FLA
KANSAS CITY, MO.
MEMPHIS, TENN.
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WESTERN STOPPER COMPANY, Inc.
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SEATTLE, WASH., *K. A. Moores, Inc.*
PORTLAND, ORE., *K. A. Moores, Inc.*
PHOENIX, ARIZ., *B. E. Tade & Co*
EL PASO, TEXAS, *A. H. Cooper*
SALT LAKE CITY, UTAH, *E. F. Mariani*

CCS
ONE-PIECE
VACUUM
CAPS

CROWN CORK AND SEAL COMPANY

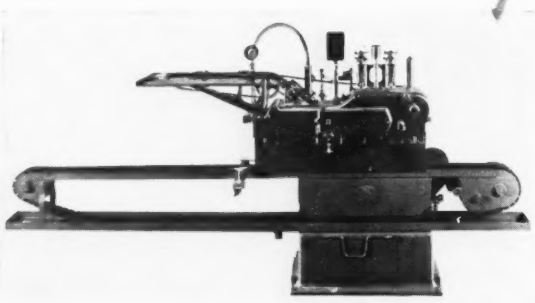
BALTIMORE, MARYLAND

World's Largest Makers of Closures for Glass Containers

VAPOR-VACUUM SEALING

BY L. E. DAVIES

VAPOR SEALING is the most modern method developed as a means of capping glass or metal containers for food or other products. The system is, unquestionably, the most unique method of producing a high vacuum in the sealed package that has ever been used. The merits of vapor vacuum sealing have come to be well recognized in the food industry within recent years. The



Full automatic vapor-vacuum capping machine

vapor system retains all of the advantages of the mechanical vacuum while, in addition, it possesses certain other features of great importance.

Describing the system briefly; the bottle, tumbler or can to be capped is carried on a conventional straight-line conveyor belt, at a steady rate of speed through a short tunnel within which the upper part of the container is swept by a gentle flow of slightly superheated steam which serves to effectively sterilize the surface of the product and the upper part of the container while, at the same time, the air in the head-space is displaced by vapor. While still surrounded by the vapor, the cap, which has been sterilized, also by the hot steam, is picked up and quickly pressed onto the container after which the cooling of the vapor in the head-space of the package sealed causes the vacuum to form.

The fact that the vacuum is never formed until after the seal is effected is of great importance, as it prevents any disturbance of the product. Thus, very hot products or products containing substantial amounts of entrained air or gas such as salad dressings, may be vacuum sealed without having any of the product "sucked out" as is usually the case when drawing a vacuum on this class of product.

The efficiency of this modern revolutionary principle of vapor vacuum-sealing is so refined that there is no trace of moisture trapped in the package or on the cap and an efficiency of vacuum up to 28 in. can be obtained. The amount of vacuum to be applied is under perfect control. In other words, by the adjustment of the vapor flow, a vacuum condition ranging from 2 in. to 28 in. can be applied without variations.

With certain products, it is not considered desirable to produce a very high vacuum in which case the machine may be adjusted to displace only a portion of the air. However, in these cases, of low vacuum sealing, the remaining air is sterilized which is not the case in the old methods of mechanical vacuum.

TYPES AND APPLICATIONS OF CLOSURES

FROM earliest days the problem of sealing all types of containers has been a vexatious question. The primitive urns, crocks and other vessels were sealed with covers of pottery, wood, skin and other crude methods, often topped with waxes of various kinds.

The first great advancement came with the discovery of cork, and this rapidly became universal in use. It served its prime purpose well and kept the contents of the container from leaking. Glass became the first container with which the manufacturer had to contend and later on tin cans brought further problems.

Glass, with its sanitary qualities, transparency and pleasing effects, took its natural leadership in a great many lines, but probably even today only about 30 per cent of those products which could be glass-packed are shipped in glass. This is due to the fact that up to the present time the glass container, plus the seal, plus the label, has not been considered as integral a whole as the tin can.

Space forbids going into details concerning all of the various seals that have been designed. Suffice it to say that it requires careful study, testing and comparison of the seals and methods before adopting any, remembering that the molding material, cork, metal, lacquer, liners, glassware and product to be sealed must be considered before the selection of the closure.

The following illustrations show general and a few of the special types of closures.

Personality Plus . . .

THE "make-up" of a package is its sole key to sales appeal. Without smartness, without that trim and dainty appearance that stamps a package as truly modern, it must bow to its more attractive neighbors on the dealer's shelf.

Kimble Glass Vials—lustrous and sparkling, colorful and convenient—are as new and as different as tomorrow. Each vial, with its distinctive design, its bright hued cap or closure, imparts an outstanding character to the article it contains. It may be a new toilet novelty — a new tooth powder —an already well-known perfume, or headache remedy, or digestive tablet. Dress it up in a Kimble Vial—marvel at its new appeal—watch it speed to new sales heights and profit records.

Kimble Vials are available for Droppers, Applicators, Shaker Tops, Goldy Seals, Re-Seal-It Caps, Slip Caps, Screw Caps of metal or Bakelite. Special designs for particular needs. All of them are light and convenient to carry — strong and durable—sanitary and safe, and low in cost. Confer with Kimble first on sampling and packaging problems, and build a new and winning personality for your product.

KIMBLE GLASS COMPANY • • • VINELAND, N. J.

NEW YORK • CHICAGO • PHILADELPHIA • DETROIT • BOSTON

MEASURE YOUR GLASS

SPEAKING of the glass package itself aside from its contents—by no means is it always as effective or efficient as it might be. Granted! But how to make it more so is often a real problem.

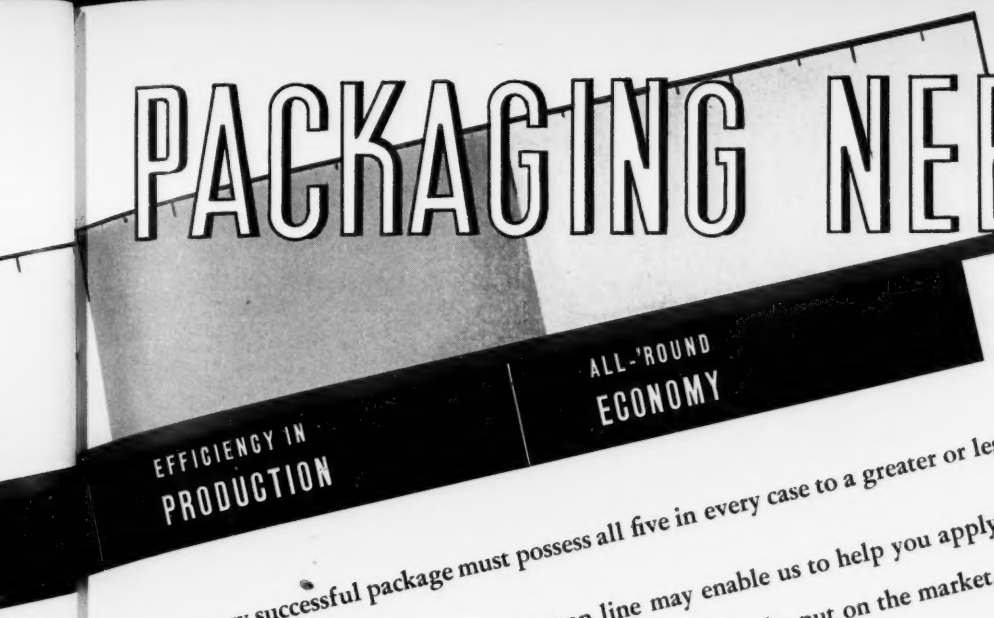
There's no "pat" answer to this question. Nor can any single type of closure, container, method of sealing or style of packaging be a cure-all for the ills that beset packages. When you consider, too, that slight differences in appearance or loss of sealing efficiency on even a small portion of your output opens the door to competition by just that much . . . the question of obtaining the best possible packaging results assumes grave importance.

It may perhaps sound too easy to say that the solution lies in the perfect adapting of all package elements to the product and conditions under which it is packed and sold. Yet that is the case. And that's where the yardstick shown above comes in. Every product, no matter what, needs a package that comes up to scratch on these five counts. That is, if it is to be completely effective, as effective as you would like to see it.

Anchor Closures measure up! Capstan and Salem Glass Containers do likewise! True, the weight given to any single factor may vary with a particular situation

XUM

PACKAGING NEEDS



but every successful package must possess all five in every case to a greater or less degree.

The very extent of the Anchor-Capstan line may enable us to help you apply that yardstick to your present packages or to a new one yet to be put on the market. As a result of Anchor's complete range of products, designed to meet practically every conceivable problem in glass packaging, our ideas are not cramped nor our outlook restricted. Anchor representatives can recommend whole-heartedly, without fear or favor, whatever their experience tells them is best in the way of packaging materials or methods.

Another advantage is that an outside person or organization, freed from too close a contact with the details of a situation, often is in a better position to offer worth-while suggestions. Particularly is this true when such a person (as is the case with all Anchor-Capstan representatives) has a wealth of experience in the sealing and packaging of hundreds and hundreds of diverse products at his command.

Don't hesitate to call upon us for advice, for information, or for specific recommendations on your container, closure or packaging requirements.

ANCHOR CAP & CLOSURE CORPORATION
LONG ISLAND CITY, N. Y.

☆ CAPSTAN GLASS COMPANY
CONNELLSVILLE, PA.

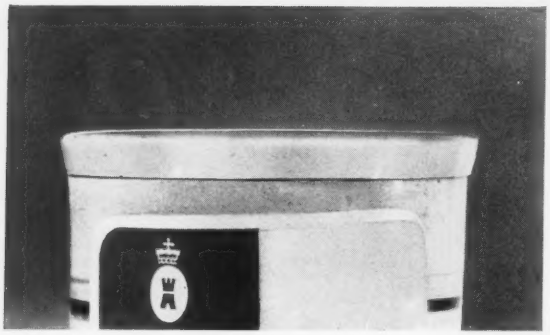
☆ SALEM GLASS WORKS
SALEM, N. J.

ANCHOR *for Caps*

★ GLASS CONTAINERS ★ CLOSURES
★ SEALING EQUIPMENT
★ RESEARCH ★ PACKAGE DESIGN

CAPSTAN *for Glass*

XUM



Whitecap, top seal for thin tumblers

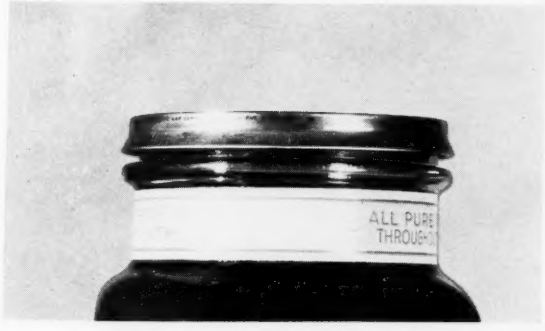
Band cap, applied by crimping

Vacuum cap (aluminum or tin) with ear for tear-off. A similar type provides two ears

Two-piece cap, wide mouth

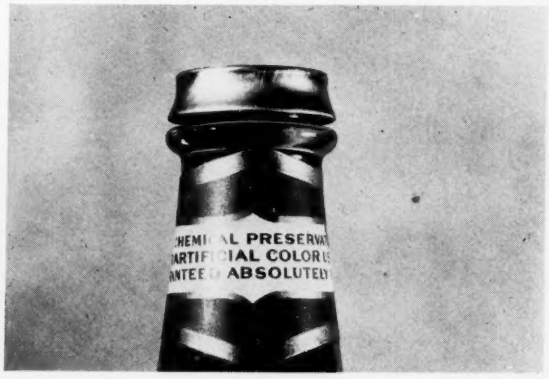
U.S. INSPECTED AND PASSED BY DEPARTMENT OF AGRICULTURE EST. 20C
The Wilson label protects your table
WILSON & CO.
CHICAGO, U.S.A.

Vacuum cap for wide-mouthed ware



Whitecap, pry-off finish

Crown caps, wide and narrow



Whitecap, single shell

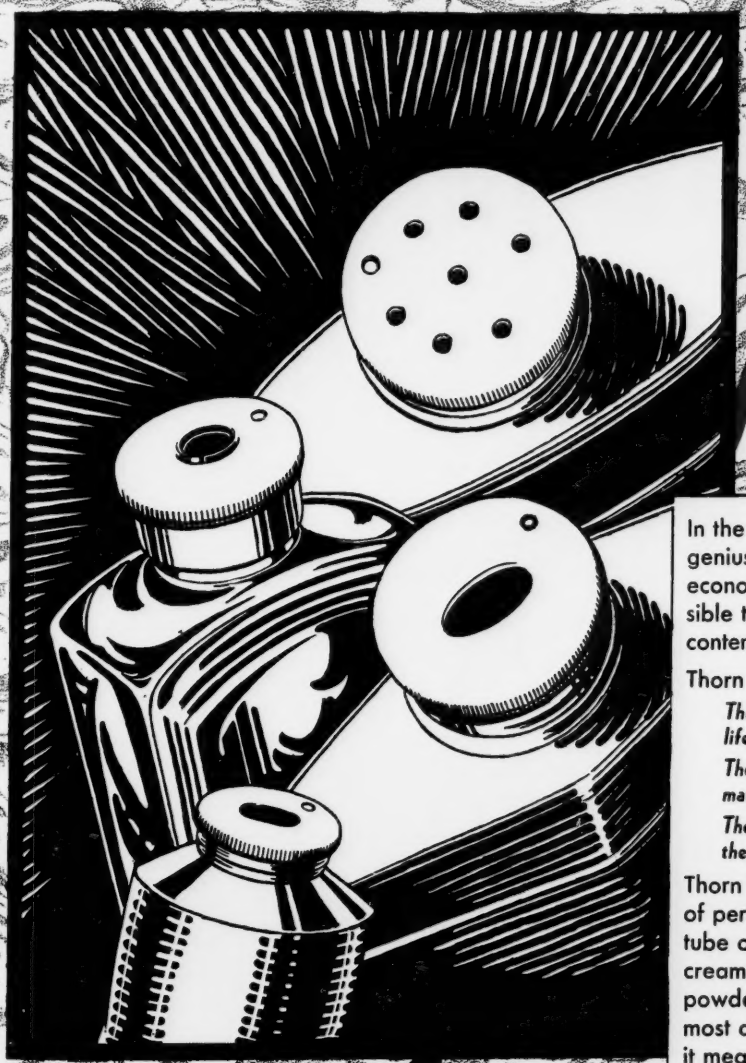
CLOSURES CONTINUED ON PAGE 202

At Last!

A Perfect Captive Cap

Thorn TITE Tops

for BOTTLES TUBES CANS



In the invention of Thorn Tite Tops creative mechanical genius has produced an entirely new, improved and economical type of captive closure for bottles, collapsible tubes and cans, that insures absolute protection of contents against leakage or contamination.

Thorn Tite Tops possess many outstanding qualities:

They insure perfect tightness of closure during the entire life of the container.

They open and close with the utmost ease—almost automatically—merely a slight turning pressure by finger or thumb.

They are attractive in appearance and lend themselves to the smartest styles of container design.

Thorn Tite Tops will delight your customers. Your bottle of perfume, toilet water or other fluids, your collapsible tube of tooth paste, shaving cream, or similar paste or cream products, or your can of tooth powder, talcum powder or other powdered products, may be of the most attractive design, but if the cap or closure is faulty it means customer and dealer dissatisfaction.

Thorn Tite Tops will solve your closure problem. Compare them with the closure you are now using. We shall be glad to send a sample top on request. Try it with your own product.

Write for full particulars, prices, etc.

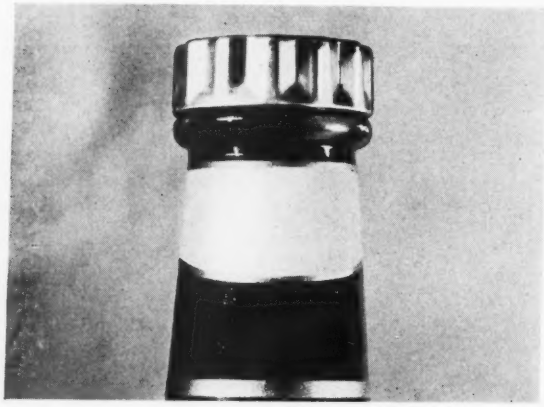
THORN TITE TOPS, INC.
331 MADISON AVE., NEW YORK, N. Y.

tTt

XUM

Aluminum Goldy seal, wide and narrow

Anchor A clipper friction cap



Whitecap, double shell

Amerseal, one-piece and two-piece, narrow and wide. Quarter-turn cap sealed by means of interrupted thread

Anchor R clipper friction cap

C. T. caps (regular screw caps) of plastic, tin and aluminum. Also in glass, brass or zinc

Sterling cap. Sealed under pressure or vacuum

Crown lug cap

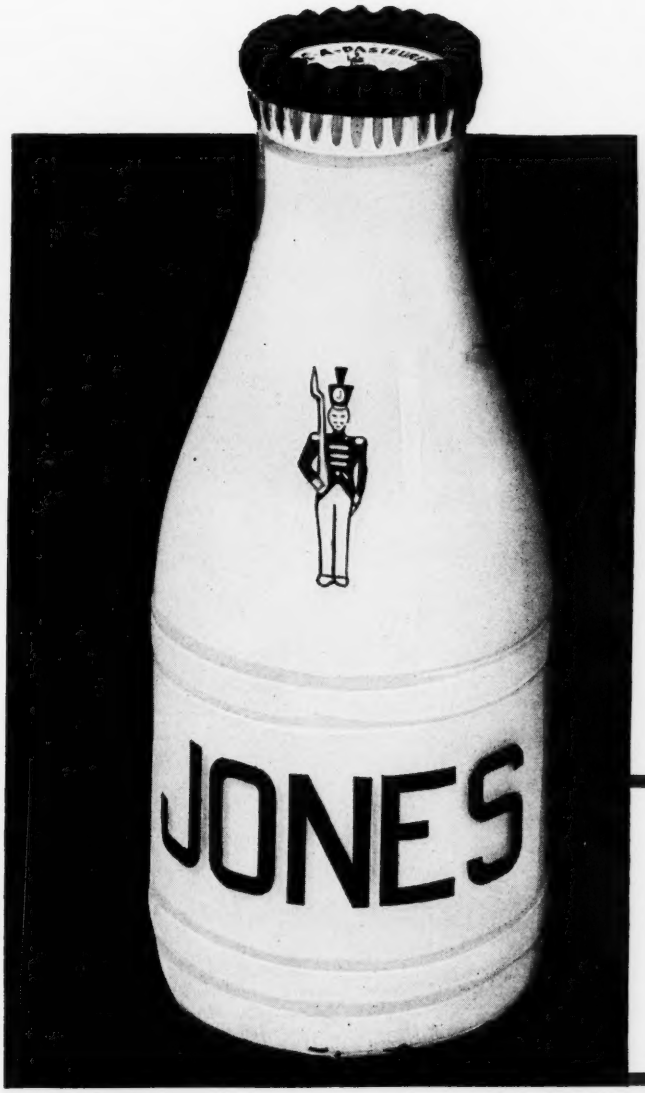
Aluminum roll on. Threads formed on container

CLOSURES CONTINUED ON PAGE 206

A SEAL-KAP

THE DIFFERENCE BETWEEN A BOTTLE OF MILK

and a PACKAGE OF MILK



In the 1934 All-America Packaging Competition a milk bottle was recognized as a package for the first time—

a SEAL-KAP was on that milk bottle.

The Seal-Kap gave that bottle sales appeal—complete protection—convenience—attractiveness—made it a prize-winning package.

For the same reasons Seal-Kaps appeal to the consumer more than any other type of cap. They can be removed with a twist and a lift—replaced with a snap—resealing the bottle tightly. They protect the milk until the last drop has been consumed.

"Branded" Milk tells how colored Seal-Kaps can be used to stimulate sales. It is modern—well-illustrated. Send for a copy for your files.

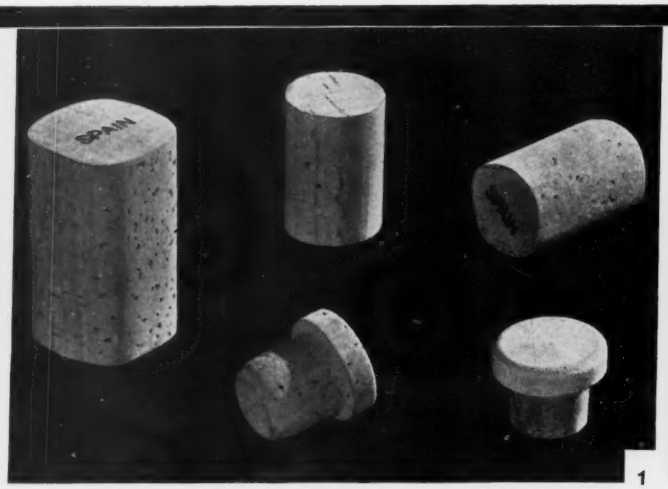
AMERICAN

SEAL-KAP

CORPORATION

11-05 44th Drive, Long Island City, N.Y.

There's an ARMSTRONG CLOSURE *fo*



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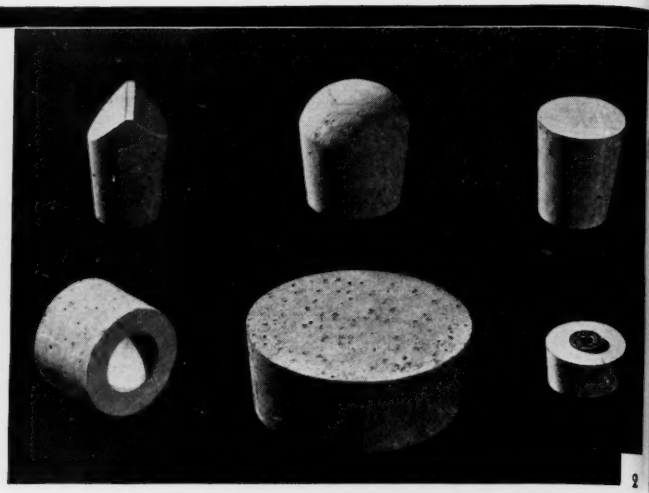
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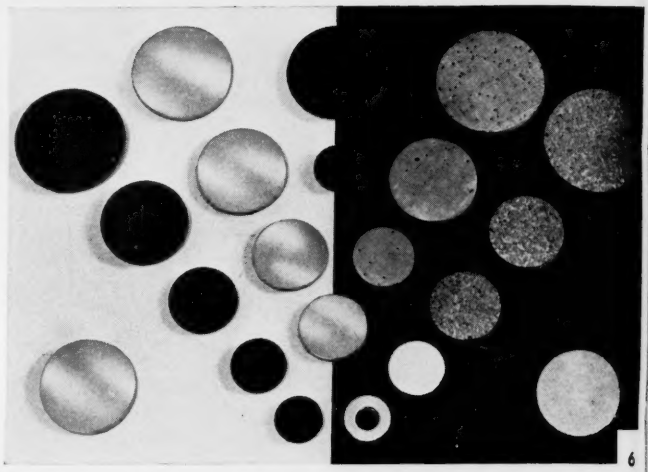
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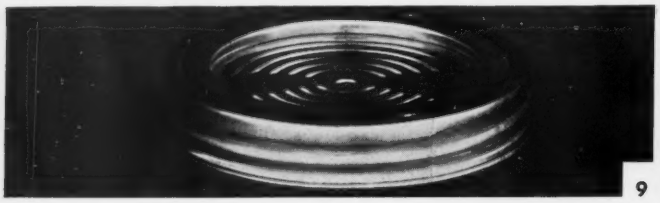
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10

1. Corks for Wines and Liquors. (Refer also to Embossed-Top Corks) Choose from the large Armstrong Line of Spanish and domestic corks: straight corks, flange corks, hand-cut corks, wood-top corks, and champagne corks (tirage and expedicion).

2. Corks for Drugs, Cosmetics, Foodstuffs, and Miscellaneous Products. Armstrong offers all types of corks—tapered corks, shell corks, round-top corks, wedge-top corks, cemented corks, and specie or jar corks in a full range of grades and sizes. The effective sealing surface of these corks extends over a wide area inside the bottle neck. The cork tends to expand in the neck and grips the glass with a suction hold so that a secure seal is formed.

3. Metal Caps and Jar Covers. Made in single-shell and double-shell types for both narrow-mouth and wide-mouth glass containers. Their smooth, continuous threads are accurately formed, facilitating application and removal. Supplied in a wide range of lively colors or lithographed with private decorations. Made of sturdy tin plate or aluminum.

4. Molded Plastic Caps and Jar Covers. Armstrong's Artmold Caps give packages that "finishing touch" of beauty and refinement. In addition to beauty, color, and graceful lines, they possess many practical merits. They are sturdy, readily applied by machine or by hand, cannot rust or corrode, are easy to remove and replace. Made in a wide range of colors and stock designs. Also custom-molded in your own private design.

5. Embossed-Top Corks. All the advantages of a good cork plus the beauty and practical merits of a handsomely embossed hard-wood top. Armstrong's Embossed-Top Corks are the most popular closures in the liquor field. Bartenders and consumers alike find them convenient, easy-to-use closures. They are ideal for sweet wines, whiskey, gin, drug and food products.

6. Liners for Caps. All types, sizes, and thicknesses are offered, including cork, felt, pulpboard, rubber, and special compositions. When necessary, they are faced with various types of paper or foil to resist chemical action.

7. Crown Caps. Used for sealing beer, carbonated beverages, fruit juices, and other food products. Discs or liners are made of resilient, high quality cork—either plain or faced with tin foil, aluminum foil, or varnished paper, depending upon the requirements of the specific product. Shells are carefully shaped, and lithographed clearly in rich colors. Made in stock, proprie-

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ARMSTRONG IS CLOSURE H

XUM

for Every Sealing Need!

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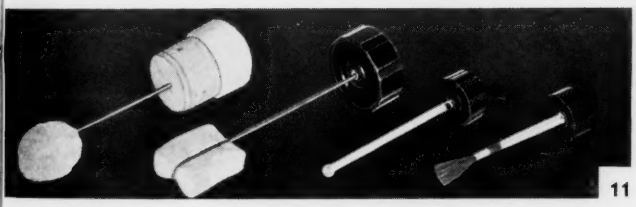
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12

tary, and private decorations or trade-marks.

8. "Cel-O-Seal" Caps and Bands. A cellulose cap or band, made by Du Pont and sold by Armstrong, for use on wines, liquors, drugs, food products, etc. Fit over any type of closure and shrink tightly to the bottle neck. Many distillers and rectifiers have adopted Cel-O-Seal bands to hold strip stamps securely in place. When impregnated with your name or trade-mark, they are an excellent safeguard against counterfeiting.

9. Vacu-Vent Caps. A new, vastly superior closure for food packing. Vacu-Vent Caps save time in the production line. They are tightly screwed in place before the container is vacuumized or processed. Automatic action permits withdrawal of air through vent hole in top of cap during vacuumizing process—or allows internal gases to escape without possible infiltration of air. Easily opened by depressing valve with pointed object—to admit air and release vacuum before unscrewing cap.

10. Metal-Top Corks. This type of closure is widely used in Europe for sealing liquor. The metal top may be lithographed or embossed in special designs.

11. Applicator Caps. Supplied with glass rods; quill brushes; twisted-wire brushes; metal handle brushes; cotton, felt, and wool applicators on wire; and sponge rubber applicators on glass rods. All these are available in combination with molded caps and, in some cases, with corks and rubber stoppers.

12. Rubber Stoppers. Smooth in texture, uniform in color, and accurate in size and taper. Especially suitable for sealing ammonia, strong alkalis, chlorine bleaches, tincture of iodine, etc.

***FOR INFORMATION, SAMPLES, AND PRICES** communicate with the branch office nearest you, or write direct to Armstrong Cork Products Co., Closure Division, 910 Arch Street, Lancaster, Penna.*

BRANCH OFFICES

ATLANTA BOSTON CHICAGO
CINCINNATI DETROIT LOS ANGELES
NEW YORK PHILADELPHIA
PITTSBURGH ST. LOUIS
SAN FRANCISCO
SEATTLE

HEADQUARTERS

Friction cap for catsup and chili sauce bottles

Seal-Kap sanitary re-seal cover

Duplex cap, quarter-turn, sealed by down pressure

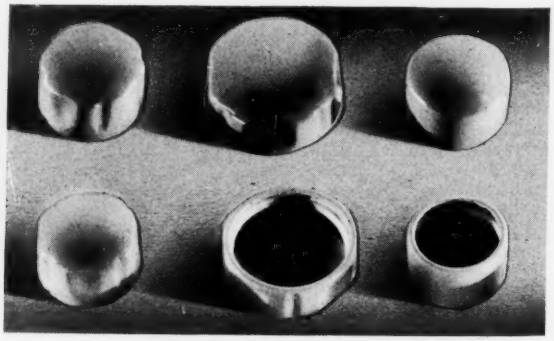
Armstrong Vacu-Vent cap

Cork-N-Seal, wide and narrow mouth

Left: Kep-Ark pouring seal. Right: Aridor Gripper-seal

Left: Knife-opening cap. Right: Sentry seal

Left: Dacro disc sanitary milk bottle cap. Right: Vacuum pry-off hermetic seal



Aridor medium-deep I-T caps, round and square tops

CLOSURES CONTINUED ON PAGE 208

CLOSURES.....

Closing a bottle *just right,* is the crowning art of modern packaging. Sure selling depends upon *secure* sealing.

Your closure—

Must be *safe.* It must *make sense* with the product it tops. It must be *smart*—in an increasingly large number of products. It must *serve* the consumer's every possible convenience.

Mundet Closures *assure* all these factors of rightness—and more. You are sure of that dependability in production and use, in every detail, which only an international organization, specializing in Closure design and production for more than 70 years, can guarantee. • Mundet's experienced laboratories are always at your service for a study of the individual requirements of your product—chemical, artistic, economic. Suggestions and costs will be gladly offered without obligation.

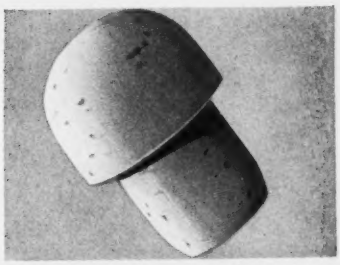
"SOLUTIONS TO CLOSURE PROBLEMS"

Illustrated here are a few of the many styles of closures manufactured by Mundet. For more complete information concerning Mundet closures and closure service, write for a copy of "Solutions to Closure Problems," a 16-page booklet showing types of closures and liners for a wide variety of products. It's free.

MUNDET CORK CORP.

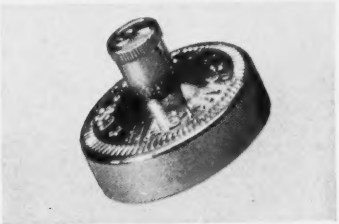
65 S. ELEVENTH STREET, BROOKLYN, N. Y.

Mundet Branches are Conveniently Located in: Atlanta, Cambridge, Mass., Cleveland, Chicago, Cincinnati, Denver (care of Stone Hall Co.), Detroit, Houston, Los Angeles, Memphis, New Orleans, Philadelphia, St. Louis, San Francisco.



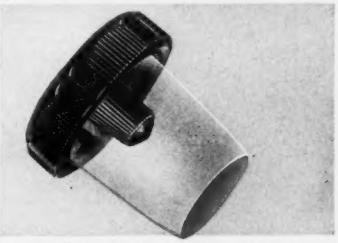
Mushroom Corks—for various drug and miscellaneous products.

Molded Screw Caps—deep molding and precise construction make these closures good looking . . . smooth-working.



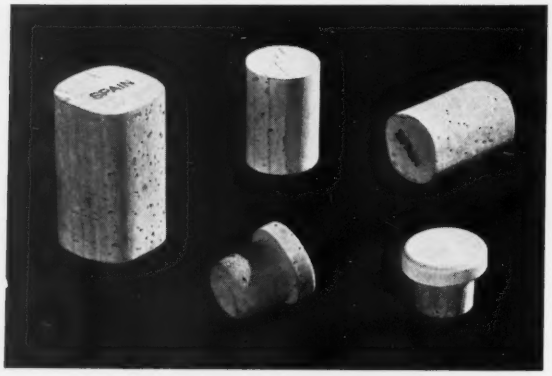
Shaker Tops—for preparations requiring controlled application.

Solid Molded Flange Closures—a cork seal plus attractiveness of a molded closure.



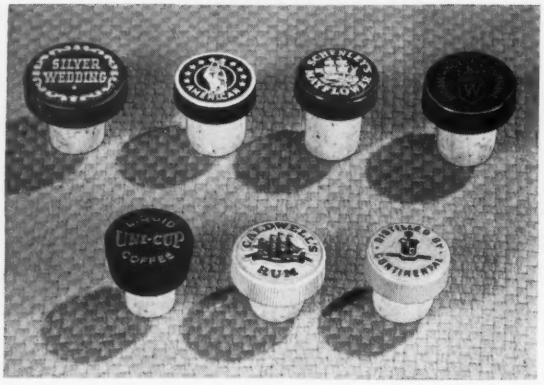
Above "X-ray" view shows exclusive construction principle which prevents molded flange from breaking off. A perfect resealer.

Metal Covered Wood Flange—a cork closure with metal top. Can be handsomely lithographed or embossed.

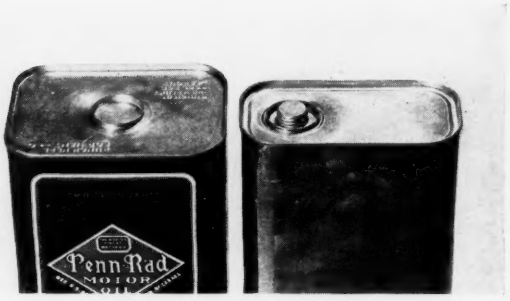


Wine and liquor corks

Friction top, with or without inner seal



Embossed top corks



Newman closure, spun on

Cover and sealing (Anchor) types of jigger caps

U Press-It, inside pressure sealed

Barrel spout and cap, screw closure

One-draw slip cover

CLOSURES CONTINUED ON PAGE 210

"Onized Bottles and Closures"

SYLPHSEAL

(Reg. U. S. Pat. Off.)

For Protecting and Beautifying Bottle Closures

SYLPHSEAL Caps and Bands will not only prevent adulteration, but they will also hold the bottle closure tightly in place to prevent leakage. They also keep the bottle closure in a sanitary condition. ¶ A smartly dressed-up package always has a distinct sales advantage. ¶ **SYLPHSEAL** Caps and Bands, plain or printed, are made in a number of grades and finishes, transparent or opaque, and in many beautiful colors. They will give a distinctive note of color to your bottles which will make them outstanding on shelf or counter. ¶ If you have not tried **SYLPHSEAL** on your bottles, let us send you samples and quote you prices.

SYLVANIA INDUSTRIAL CORPORATION

CAP AND BAND DIVISION

Executive and Sales Offices: **122 East 42nd Street, N. Y. C.**

Works: Fredericksburg, Va.

•

Pacific Coast Representatives:

BLAKE, MOFFITT & TOWNE, With Divisions in the Principal Cities

Put a Zipper ON YOUR JARS!

Don't you wish you could? So that Mrs. Consumer could open them with one quick twist, and yet they'd come to her safely, surely sealed, with contents perfectly protected? Science has made the nearest thing to a zipper for glass jars in Gold Seal Cap Compound No. 60, the self-lubricating flowed-in gasket that seals surely, opens easily, pleases consumers everywhere. Cap manufacturers appreciate its economical high-speed application. *For full particulars write to* DEWEY AND ALMY CHEMICAL COMPANY, *Cambridge* B, *Massachusetts.*

DEWEY AND ALMY CHEMICAL COMPANY

GOLD SEAL CAP COMPOUNDS FOR EVERY CLOSURE NEED

Interrupted thread cap with cut-in lug

Aluminum reamed-on caps, plain and sifter type

Foil and metal hoods, secondary seals

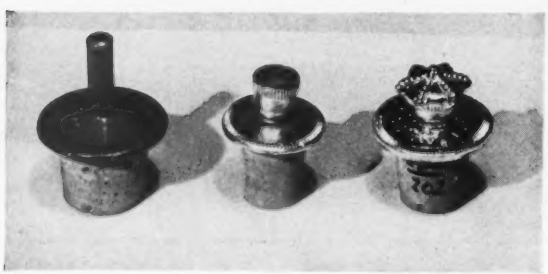
Cellulose caps, secondary seals

Molded C. T. caps of various plastics

Filma-Seals (top row) as applied to bottles, jar and can

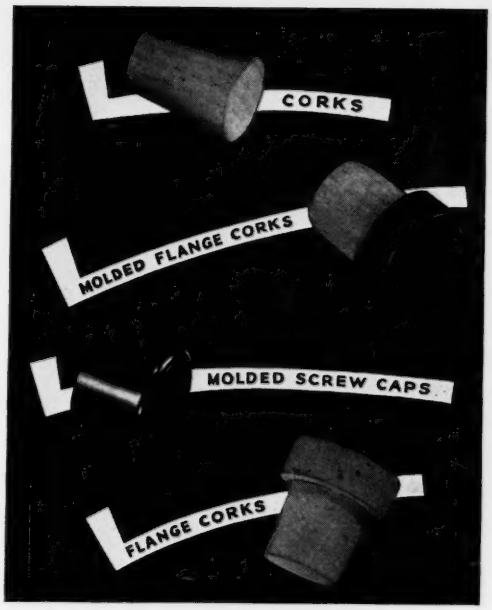
Metal double-shell screw caps

Secondary closures (molded) for mustard and catsup



Sprinkler tops, with or without spun on features

Rubber spreaders and applicators



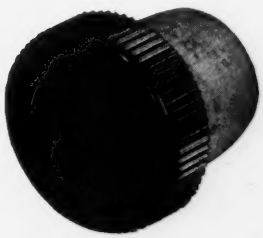
When making new friends or keeping old friends

LITTLE THINGS ARE IMPORTANT

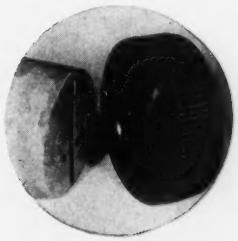
BOTTLE closures—small as they are—stand out big as potential makers of friends for your product. Buying eyes turn naturally to the distinctively sealed bottle. Distinction in closures does not mean fussiness or fanciness, but rather attractiveness of form and color and the doing of the appointed job perfectly. Planning and furnishing closures which make and hold friends—closures which not only seal but help to sell—that is the business of the Dodge Cork Company, Inc.

MOLDED FLANGE CORKS

THE Dodge Molded Flange Cork combines the effectiveness of a natural cork stopper with the attractiveness and convenience demanded for modern use. It seals perfectly without special equipment. It is easily drawn and is a positive reseal. Send us your bottle and let us fit it with the appropriate molded flange cork.

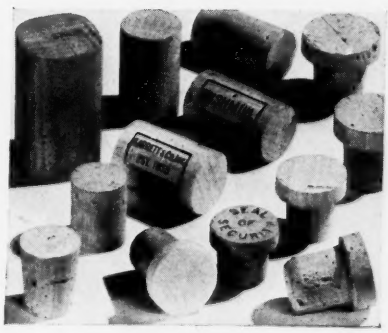


No other material used in flange corks takes such a clean, sharp impression as the molded plastic material used in Dodge Molded Flange Corks.



The exclusive Dodge "fin" construction and a special adhesive doubles the strength of the bond between cork and flange.

NATURAL CORKS

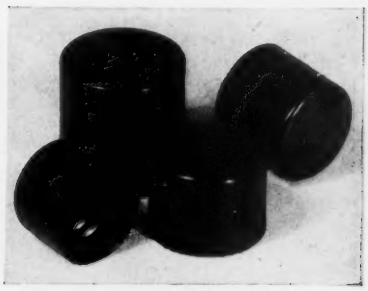


For natural stoppers of any standard or special size or shape—all-cork flanges, tapers and straight corks—look to Dodge for highest uniform quality, precise dimension and form, and for the quickest service.

WOOD TOP CORKS

The Dodge Wood Top Cork is a combination of a *solid* wood flange with natural cork shank, to provide an efficient and attractive closure at moderate cost. The finish is exceptionally smooth; knurling clean and sharp. All colors.

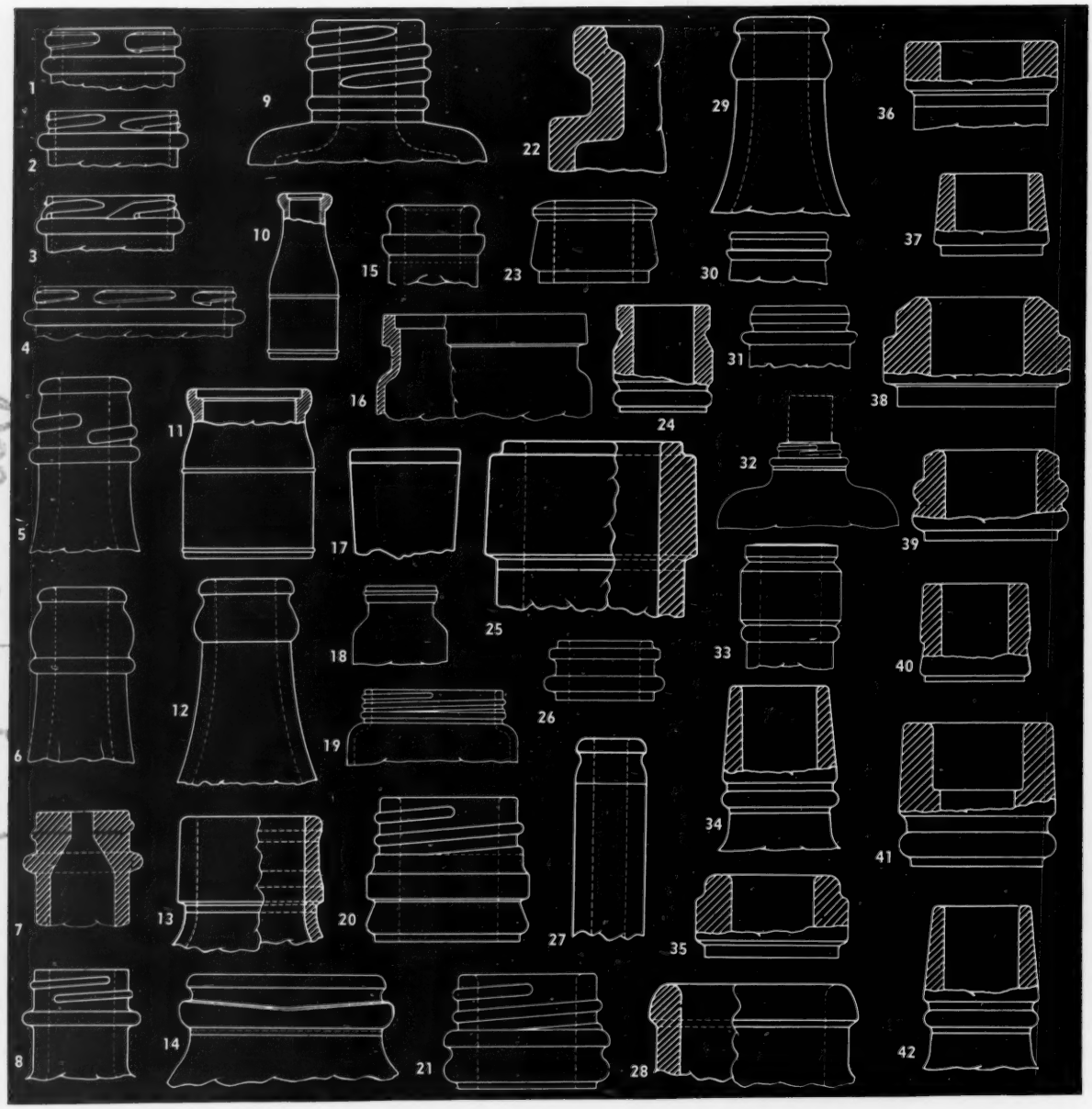
MOLDED CAPS



The crowning touch for screw-finish bottles. Strongly and precisely molded, Dodge Caps are available in a variety of handsome styles, all desired sizes, in black or any color.

DODGE CORK COMPANY, INC., LANCASTER, PA.

STANDARD GLASS FINISHES FOR CLOSURES



Diagrams furnished through the courtesy of the Glass Container Association of America

Fig. 1. Two lug Amerseal
Fig. 2. Four lug Amerseal
Fig. 3. Four lug vacuum Amerseal
Fig. 4. Six lug Amerseal
Fig. 5. Combination screw cap
Fig. 6. Combination friction cap
Fig. 7. All glass sprinkler top
Fig. 8. Shallow continuous thread
Fig. 9. Tall continuous thread
Fig. 10. Milk bottle
Fig. 11. Cottage Cheese jar
Fig. 12. Crown beverage
Fig. 13. Save-a-seal
Fig. 14. Variable ledge Priof
Fig. 15. Kork-N-Seal standard
Fig. 16. Band cap
Fig. 17. Anchor or friction
Fig. 18. Anchor bead
Fig. 19. R. O.
Fig. 20. Tamper-proof and alter-proof
Fig. 21. Roverseal
Fig. 22. Friction Pry-off
Fig. 23. Goldy
Fig. 24. Long Corseal
Fig. 25. Super-seal
Fig. 26. Super Crown
Fig. 27. Small size Crown
Fig. 28. Upressit
Fig. 29. Non-pressure Crown or Goldy
Fig. 30. Straight ledge Crown Pry-off
Fig. 31. Pry-off for Anchor "F" cap
Fig. 32. Combination cup cap
Fig. 33. Frankfort style
Fig. 34. Brandy cork
Fig. 35. Sauterne or cognac
Fig. 36. Square ring cork
Fig. 37. Gin
Fig. 38. Champagne
Fig. 39. Italian vermouth
Fig. 40. Standard wine
Fig. 41. Glass stopper and shell cork
Fig. 42. Guardian safety seal

For The Best Effect
Pack Your Products In
Federal Glassware

A constant reminder of YOUR products—A container that creates the urge to buy again—that is the story of Federal glass ware for packaging.—

Tumblers in new and modern styles—large roomy cookie or candy jars—jugs—cocktail shakers—and scores of other outstanding containers which give added appeal to your products. The appeal to the consumer who gets a container to keep and use—and add to.

Let Federal Glass containers help you sell more of your products to your regular customers and open new avenues of distribution.

Write, wire or phone for catalog and details.

The Federal Glass Company
Columbus, Ohio

MATERIALS IN LINERS FOR CAPS

CLOSURE EFFICIENCY, to a considerable extent, depends upon the liner. It is the liner that comes in contact with the product and makes the actual seal with the glass. A liner usually is composed of two parts: the liner surface that touches the product, and the liner backing that provides resiliency and resistance. The selection of each should receive consideration as to the function to be performed by each.

The surface material must be carefully specified to withstand any possible chemical action or deterioration from the properties inherent in the product. It must be selected according to product characteristics in order to function properly.

The function of the liner backing is practically the same with all products. It, too, must be carefully specified with due regard to a number of factors. Among these are flexibility, softness, uniformity, economy and the ease of working.

From the standpoint of assisting the spring seal action of the cap itself, in making an airtight, leakproof seal the liner backing must have the correct amount of firmness or compressibility, as well as the greatest possible resiliency. The material should not be too easily compressed or too soft, because a certain degree of firmness is essential in order that the seal does not loosen.

The highest degree of resiliency is desirable so that there will be a constant tendency of the backing material to resume its former thickness (before being compressed), thus insuring that, after the cap is applied, the seal will remain tight and secure during service.

When the use of liners was confined to crown caps, for which they were originally devised, the problem was not a trying one. It was answered satisfactorily by disks of natural cork or of cork compositions that would hold the comparatively simple and chemically inert carbonated or low alcoholic beverages which were sealed with crowns. However, with the development of screw caps and other types of mechanical closures, the liner problem became more complex.

Many materials have been developed for the purpose, but still there remains the question of determining which particular one to use for a specific product. Logically enough, the cap manufacturer has shouldered the job of answering this question for those who contemplate using his caps. The packer can and should by all means submit sample packages of his product and a chemical analysis of it to the cap manufacturer for laboratory tests to find out the kind of liner it requires.

Cork compositions produced by granulating high-quality corkwood, introducing a binder, and compressing into blocks from which sheets or ribbons are cut, are widely used as lining materials. Disks of natural cork are also used to some extent but due to the limited supply of corkwood that is largely free from pores and other defects, its use is restricted. Compositions serve equally well except in that the introduction of a binder and the presence of inter-stices in the surface make them susceptible to some chemical reactions.

In addition, it has been found advantageous in some cases to treat the cork composition with paraffine or other waxy materials. Such treatment often makes a plain cork liner satisfactory. However, these treatments should always be used with caution for it must be remembered that there are many liquids with which they should not be used.

A great variety of liners is produced by applying a facing material over the cork composition. This operation is ordinarily referred to as "duplexing." The cork gives the liners the necessary thickness, strength and resilient compressibility, while the facing, which is presented to the contents of the package, resists chemical action. The facing materials used are varnished papers, paraffined papers, tin foil, aluminum foil and lead foil, in addition to foil backed with paper.

Varnished papers, which are probably the most widely used of all liner facing materials, have been appropriated and developed from the electrical insulation business. They have different chemical characteristics depending on the formula used in making the varnish. Two pieces may be identical in appearance and yet vary greatly in performance. Careful tests of varnished papers must be conducted before selecting a specific kind of quality for a product. Sometimes varnished papers are coated with paraffine in order to lubricate the surface and prevent tearing, due to roughness of the bottle, when the cap is screwed on. This safeguard cannot be used if the liners are to seal products which dissolve the paraffine. Paraffined plain white paper as a duplexing material sometimes proves satisfactory with creams and pastes.

The newest development in liners has to do with the film type of facing, such as Pliofilm and Vinylite. These materials, which cannot be rightfully classified as varnished papers, have received acceptance by the trade in the last year and a half. They are being used largely where extreme conditions of acidity, alkalinity and solvent resistance are encountered and have each, because of their wide range of adaptability, replaced other materials, where these conditions are encountered.

Tin foil-faced cork composition has a large field of usefulness as a lining material due to the fact that it withstands contact with a wide range of chemicals. However, it also has definite limitations and is more expensive than varnished paper. To give tin foil added strength and a better appearance, a lining material has been developed in which very thin foil is backed with a reinforcement of paper. In some instances aluminum foil and lead foil are also being utilized.

Pulpboard is still another such material which may be had in the various facing combinations mentioned. Rubber is also used for liners.

Glass Package Labels — Transparent Labels — Inserts

XUM

PAPER AND METAL FOIL LABELS

BY F. L. ROBINSON

UNDOUBTEDLY many firms will give their label supply considerable thought during the coming year. When doing so, they will undoubtedly review the progress that has been made during the past year, and consider those types that have shown the greatest progress, and those that are still being used on leading products.

There have been many advances in the label field during the past year, many of which have been apparent; many of which have not been publicized to a great extent, but which are, nevertheless, important. The advancements publicized can be compared to painting the outside of one's home. Those not publicized compare with the installation of plumbing and other fundamentals that are necessary and which provide satisfaction.

Considering first the label stocks, metal foils and bronze papers have created a mammoth breaker out of the small waves that started in 1935. In the past year we have seen manufacturers finding new ways to increase the attention value of these stocks—new ways to print them—new ways to produce them at lower cost—new ways to make them for automatic labeling attaching facilities. All have been contributing factors towards greater consumer acceptance and general usage.

Added to the list of new stocks are the fancy paper lines. More glazed, more highly coated stocks, more pebbled, embossed and colored fancy papers are replacing many of the more common label stocks.

Similarly, inks have shown a definite improvement. They have been developed to the point where they can be used on fast machines, as well as slow, getting a clean coverage, a brighter luster and a more permanent or greater durability.

The use of lacquer or varnish as a means of improving appearances and adding life to a label has increased tremendously. More and more effort has been made by manufacturers to use it in its proper place. Not all products can afford it, but nearly all labels made on the paper stocks show an improved appearance when either lacquer or varnish is used.

Gumming is all important. One doesn't use pepper in his coffee when sugar is needed. One doesn't use paper for shoes when leather does the job. The same holds true for labels. Today, when given the sample of the surface upon which a label will be used, a reliable manufacturer will provide a gumming with the exact ingredients needed for that surface. You can't use the same gumming on aluminum that is used on glass. You can't use the same gumming on tin that is used on wood. Few buyers realize the importance of having the correct adhesive on their labels. Their supplier should furnish the right line, provided he is given the information needed when he makes the labels.

The 1936 label buyer may find his supplier thinking more of the buyer's side than ever before. The buyer will find that his entire production plan may have to be explained very carefully—for not only is he buying labels, but he is buying service. And that goes for repeat business as well as new designs for new labels. True, much repeat business will be delivered exactly as it always has been. But there is always the possibility that better stocks, adhesives, or designs can be used.

Let us presume that a new design is wanted for a specific product. We will call it a new brand of coffee to be packed in a vacuum in glass jars. Who will make the labels? Who will design them? Who can follow every detail so that the consumer will get the right labels for his coffee? Large label manufacturers maintain their own staff of artists. Smaller firms do in many cases, too. It is a problem that is solved usually by knowledge of the label manufacturer's or designer's facilities, and then making the most of them.

Call in a representative. Tell him your complete story. Emphasize, and be frank about it, too—just how much in terms of cents or fractions of cents your product can stand for its labels. You can't put a five-cent label on a six-cent item; you shouldn't put a one-tenth of a cent label on a dollar item. Give your label a chance to do the best selling job it can for the money

Among the newer types of labels are those printed and embossed on metal foil as well as highly coated stocks

SPOTLIGHT-

Your product
AT THE POINT OF SALE

Beat competition with a beautiful Perfect-O-Cut embossed foil label.

Does YOUR label reflect the quality of your product? Does it create a DESIRE for your package in the mind of your prospect?

Look to your label if you want to strengthen your sales. Let us send you samples to further illustrate what we mean.

SINCE 1870

The TABLET & TICKET CO.

1019-C WEST ADAMS STREET, CHICAGO, ILLINOIS

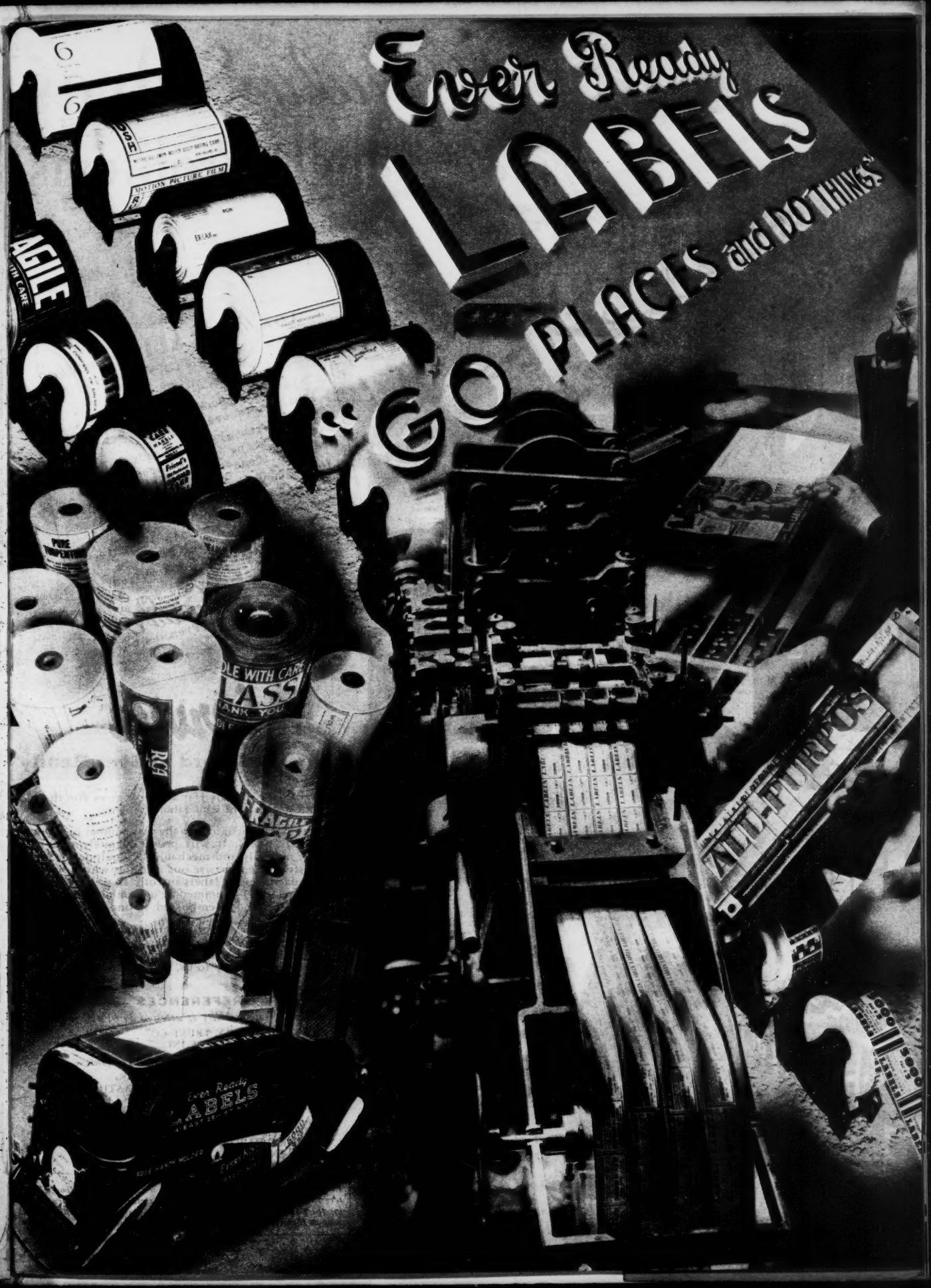
115 EAST 23rd STREET
NEW YORK

407 SANSOME STREET
SAN FRANCISCO

XUM

Ever Ready
LABELS
PLACES and DOTHINGS
528
IDEAS
for
AMERICAN BUSINESS
Save Time
Save Money
Speed Production

XUM


Ever Ready
LABELS
PLACES and DO THINGS
AGILE
WITH CARE
ALL-PURPOS
Ever Ready
LABELS

XUM

Ever Ready Solves Your Label Problems

Ever Ready LABEL Corporation
141-155 EAST 25TH ST. NEW YORK, N.Y.

This Hand-Y-Book is dedicated to label users everywhere.

I join with all Ever Ready Folks in soliciting your interest in our latest "ideas" presentation.

Your money serves us only to the extent our product serves you.

Ever Ready reaffirms its guarantee--a transaction is never complete until you are entirely satisfied.

Ever ready yours,

President

Service

The Watchword at Ever Ready

POSSESSION of this Handy-Book gives you the key to the solution of your label problem.

It gives you an insight into the vast number of services Ever Ready offers. It will prove definitely that Ever Ready is mentally and mechanically equipped to serve and satisfy. We emphasize our facilities which embrace the manufacturing of labels in rolls as well as flat (cut single or padded)—gummed or ungummed—square cut or die cut—printed or embossed, in one color or many.

Special and unusual problems requiring printing in rolls, regardless of kind of material used, is a specialty with us. If you need such work done in a hurry—at a price—put your problem up to us, and we'll solve it for you.

REFERENCES

Ever Ready's responsibility is attested to by the following:

LAWYERS COUNTY TRUST CO.
DUN AND BRADSTREET INC.

We are members of the following organizations:

ADVERTISING CLUB OF NEW YORK
AMERICAN MANAGEMENT ASSOCIATION
DIRECT MAIL ADVERTISING ASSOCIATION
MERCHANTS ASSOCIATION OF NEW YORK
NATIONAL ASSOCIATION OF MANUFACTURERS
NATIONAL CREDIT MEN'S ASSOCIATION
ROTARY CLUB OF NEW YORK
SALES EXECUTIVES CLUB OF NEW YORK

IMPORTANT PLEASE

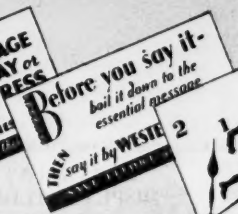
Prices in this book are subject to change without notice. It should interest you to know that Ever Ready has maintained its price structure for the past ten years, and shall strive to maintain these prices as long as they remain consistent with costs and conditions.

ENTIRE CONTENTS COPYRIGHTED 1935 BY
EVER READY LABEL CORPORATION, N.Y.C.

...CTION-GETTERS

...RGE
...D SMALL BUSINESS
...MS USE STICKERS TO ENCOURAGE
...STOMERS TO TELEPHONE ORDERS AND INQUIRIES.
...E RESULTS ARE MORE BUSINESS AT LOWERED SALES COST

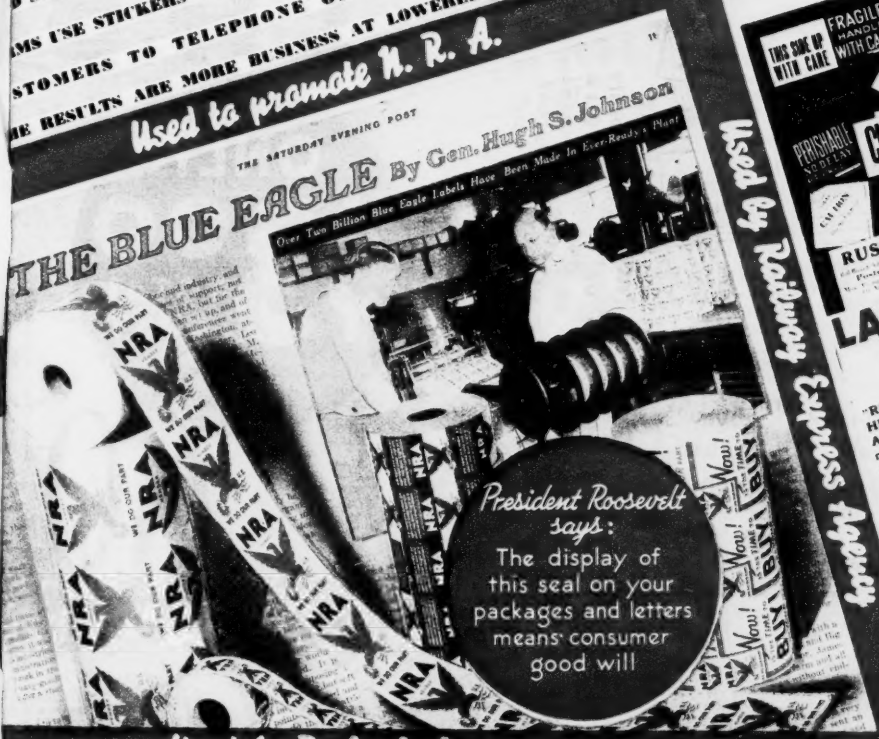
Used by telephone companies



WESTERN
UNION
PACKED WITH COLOR AND PEP OUR STICKERS ARE POWERFUL
SALES AIDS. WE WOULD USE STICKERS IF LIMITED TO ONLY
ONE FORM OF ADVERTISING.
WESTERN UNION

Used by Western Union Telegraph Co.

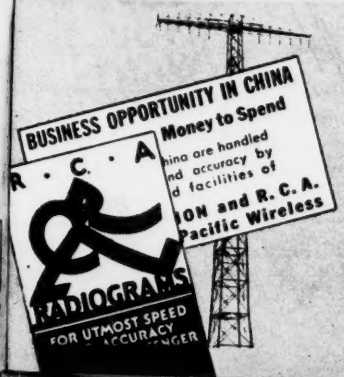
Used to promote N. R. A.

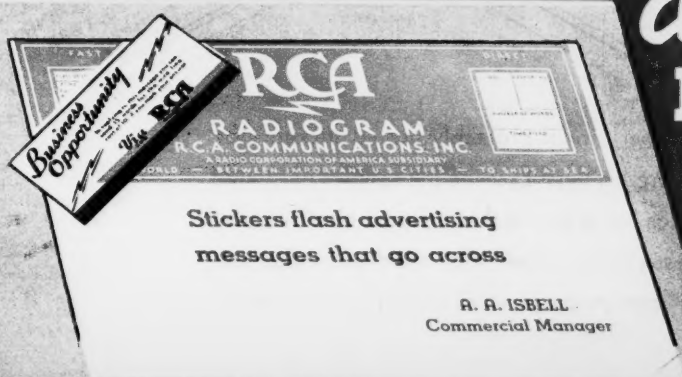

THE SATURDAY EVENING POST
THE BLUE EAGLE By Gen. Hugh S. Johnson
Over Two Billion Blue Eagle Labels Have Been Made In Ever-Ready's Plant
President Roosevelt says:
The display of this seal on your packages and letters means consumer good will

Used by Railway Express Agency

THIS SIDE UP WITH CARE
FRAGILE-GLASS! HANDLE WITH CARE
PERISHABLE
CUT FLOWERS
VALUABLE ANTIQUE
RUSH
LABELS that MEAN what they SAY
"RUSH"... "PERISHABLE"... "KEEP from HEAT and COLD"... "DELIVER IMMEDIATELY on ARRIVAL"... these are a few of the many special labels used by Railway Express to insure speed, safety and careful handling.
And these shipping instructions are not "suggestions" to our 50,000 employees. They are orders... orders that must be followed literally.
RAILWAY EXPRESS
AGENCY, Inc.
RAILWAY EXPRESS AGENCY
DEPARTMENT OF PUBLIC RELATIONS
NEW YORK
RAILWAY AGENCY

Used by R. C. A. Communications





Stickers flash advertising
messages that go across

A. A. ISBELL
Commercial Manager

Ever Ready
LABELS
Go
PLACES
Do
THINGS

Labels ARE "MINIATURE BILLBOARDS"

Agnes Daggett
130 East 57th St. New York
Allerton House Foyer
PLAZA 3-883
No. 428
PARAMOUNT DISPLAY STUDIO
523 W. 45th St., N. Y. C.
SIGNS & DISPLAYS
Phone LAckawanna 4-2461
No. 429
GIMBEL'S
Venetian Blind
Color
Size 31" x 65"
No. 430
Three—PRICE
No one offers what Ever Ready offers! That's why Ever Ready turns out the best label jobs of the country —as well as small ones
WOMAN'S HOSPITAL
1855 80 YEARS OF SERVICE 1935
No. 431
AN EX-SERVICE MAN
receives a profit from the sale of this newspaper only when the proper amount is deposited in the Honor System Rack from which it was taken.
HELP THE VETERAN
HELP HIMSELF
BY PAYING 3¢
No. 432
Two—SERVICE
Ever Ready is mentally and mechanically equipped to serve. Men who solve your problems—machines that speed up service!
500
LABE
We Thank You
FOR YOUR PATRONAGE
You have just made a purchase from a home owned business.
YOUR DOLLAR STAYED AT HOME
No. 433
PURE CREAMY BUTTER
Protect Your Health With Pasteurized Milk Products
At your Grocers
Merchants Dairy
DESLOGE, MISSOURI
No. 434
ONLY $3.00 TOTAL COST
60¢
One—QUALITY
30,000 customers testify to our ability to produce to please! I'll say that's proof — wouldn't you?
L. BAMBERGER & CO.
NEWARK, N. J.
Size:
Sleeve:
MEN'S SECTION
No. 435
MEMBER
Yarn & Bead Board of Trade
NOTE PLEASE!
Our terms are strictly 2/10 E. O. M. and no other terms or conditions will be allowed. All bills are payable on 10th of the month following sale less 2%.
No. 436
Please note NEW address
233 Spring Street
at Varick Street New York
Tel. WAlker 5-4740
and correct your records.
Thank You!
BALDWIN PAPER COMPANY, Inc.
No. 437
Your FURS are now in our cold storage vaults. Why not give your RUGS the same Protection.
VOlunteer 5-5900 Ext. 406
No. 438
5 REASONS FOR Ever Ready
CODE 1
NRA MEMBER U.S.
WE DO OUR PART
Monument Mill
Housatonic, Mass.
No. 439
John C. Harbison
Radio Service
Phone Arroyo 2365
Halcyon Rd. Arroyo Grande
Date Sold
Date Tested
Met. Card
Plate Current
Gas
No. 440
G. Hankin
PLATE & WINDOW GLASS
Manufacturer of Window S
Picture Frames
1218 SO. BOULEVARD BR
No. 441
BIRTHDAY BALL
FOR THE PRESIDENT
PAVILION ROYAL
Beach Street, West Haven, Conn.
WEDNESDAY EVENING, JANUARY 30, 1935
PROCEEDS TO BE USED FOR THE RELIEF OF INFANTILE PARALYSIS
No. 442
ANY COPY YOU WANT

• We know of no business that cannot profitably use ad stickers. The applications of these labels are limitless! Examine the samples illustrated and you'll quickly get an idea for applying them to **your own business.** Thousands of printers and stationers submit their own and customers problems to us for solution—convincing proof of our five point program.

16 for a penny—USE THEM FREELY

Four—ECONOMY
Ever Ready labels—most economical message carriers—they stick to the job—serve and satisfy! Easy and quick to handle too!

Five—GUARANTEE
Ever Ready backs every order until you are satisfied. Your money serves us only to the extent that our labels serve you.

IMPORTANT
★ THE DAY SETS THAT YOU ORDERED ARE ENCLOSED IN THIS SHIPM
No. 443

C. O. D.
FROM
B. V. D. SALES, Inc.
31 WEST 32nd STREET
NEW YORK
No. 444

PAST DUE!
A remittance by return mail will be greatly appreciated, THANKS
No. 445

IF IT'S ELECTRICAL
Call 960
MILLER & MORGAN
SALISBURY — MARYLA
No. 446

POISON
ANTIDOTES:—
EXTERNAL—Flood with water, then wash with vinegar.
INTERNAL—Give vinegar, or juice of lemon, grapefruit or orange, copiously. Follow with olive oil.
EYES—Wash out with 5% boric-acid solu- physician.
No. 447

NOTICE
Government Order
Shipment must be effected at once.
DO NOT DELAY
Your co-operation will be appreciated.
Edwin Smithson Co
No. 448

COlumbus 5-9442
James O'Toole
N. Y. STATE
RETAIL WINE & LIQUOR STORE
License No. L. 1278
993 EIGHTH AVE. at 58th St.
NEW YORK CITY
No. 449

BAM BAM
DANTE GARAG
and
Filling Static
Day and Night Ser
EXPERTS TO SE
406 E. Second A
EL PASO, TEX.
No. 450

Complete Travel Information
AMERICAN-EXPRESS
TRAVEL DEPARTMENT
1013 Huron Rd. • Cleveland
No. 451

MUrray Hill 4—9060
FURNITURE INDUSTRIES OF AMERICA
Furniture Distributors
5 FOURTH AVE.
AT 29TH STREET
NEW YORK CITY
No. 452

Digest PAYS THE POSTAGE
LL BOOKS. Ask for bargain list
st garden books and horticultural
dard works — books published
fore July, 1934. Address—
GARDEN DIGES
Great Oak Lane, Pleasantville
No. 453

CONTENTS: Merchandise
POSTMASTER: This parcel may be opened for postal inspection if necessary.
Return Postage Guaranteed
LORD & TAYLOR
FIFTH AVE. & 38TH ST. NEW YORK
No. 454

000 BELS

per thousand

FREE

Ever Ready Label Holder

● With your order we supply this duco finished label holder. Not only is this holder efficient in operation—it is attractive in appearance—suitable for office use. The holder (value 50c) is offered to you without charge—so that you may better enjoy the absolute convenience of roll labels.

Ever Ready LABELS
Go Places and Do Things

● BUTCHER—BAKER—CANDLESTICK MAKER . . . and **you** can use these labels to advertise your business—to speed up office routine—to mark merchandise—as business cards **that "stick"** plus hundreds of other uses. Printed for you in red or blue—any copy you want—gummed—in perforated rolls—easily detached—size 2" x 1¼"—60c per thousand in 5000 lots or $3.00 complete, including holder. In two colors (red and blue) $3.75 for 5000.

XUM

1/2 minute

YOU FIGURE IT YOURSELF THE *Ever Ready* WAY!

To Find Your Label Price

Place BOTTOM LEFT corner of your label on the tip of red arrow. The upper right corner of label strikes a square in which you will find the price of your label.*

****Ever Ready offers this simple price finding method for rapid and consistent pricing of labels on white gummed and ungummed paper, printed in red, blue, black, green or brown ink, square or rectangular in shape, perforated in rolls or cut single.**

****For prices on two color printing or colored paper, add 25% to the prices indicated in the panel.**

For prices on die cut labels, or labels printed on gold or silver paper, send specifications for special quotations.

*Prices subject to Federal, State and Municipal taxes.

**A few exceptions are clarified on the following pages.

	1	2	3	4	5	6
1	Price Per Thousand 5000 .70 10000 .65 25000 .55	Price Per Thousand 5000 .70 10000 .65 25000 .55	Price Per Thousand 5000 .90 10000 .80 25000 .70	Price Per Thousand 5000 1.15 10000 1.00 25000 .90	Price Per Thousand 5000 1.15 10000 1.00 25000 .90	Price Per Thousand 5000 1.35 10000 1.00 25000 .90
2	Price Per Thousand 5000 .90 10000 .80 25000 .70	Price Per Thousand 5000 1.15 10000 1.00 25000 .90	Price Per Thousand 5000 1.15 10000 1.00 25000 .90	Price Per Thousand 5000 1.35 10000 1.00 25000 .90	Price Per Thousand 5000 1.35 10000 1.00 25000 .90	Price Per Thousand 5000 1.35 10000 1.00 25000 .90
3	Price Per Thousand 5000 1.35 10000 1.20 25000 1.05	Price Per Thousand 5000 1.35 10000 1.20 25000 1.05	Price Per Thousand 5000 1.50 10000 1.30 25000 1.15	Price Per Thousand 5000 1.50 10000 1.30 25000 1.15	Price Per Thousand 5000 1.70 10000 1.50 25000 1.35	Price Per Thousand 5000 1.70 10000 1.50 25000 1.35
4	Price Per Thousand 5000 1.50 10000 1.30 25000 1.15	Price Per Thousand 5000 1.70 10000 1.50 25000 1.35	Price Per Thousand 5000 1.80 10000 1.60 25000 1.45	Price Per Thousand 5000 1.80 10000 1.60 25000 1.45	Price Per Thousand 5000 1.90 10000 1.70 25000 1.50	Price Per Thousand 5000 1.90 10000 1.70 25000 1.50
5	Price Per Thousand 5000 1.80 10000 1.60 25000 1.45	Price Per Thousand 5000 2.00 10000 1.80 25000 1.60	Price Per Thousand 5000 2.00 10000 1.80 25000 1.60	Price Per Thousand 5000 2.20 10000 1.85 25000 1.70	Price Per Thousand 5000 2.20 10000 1.85 25000 1.70	Price Per Thousand 5000 2.20 10000 1.85 25000 1.70
6	Price Per Thousand 5000 2.00 10000 1.80 25000 1.60	Price Per Thousand 5000 2.20 10000 1.85 25000 1.70	Price Per Thousand 5000 2.40 10000 2.00 25000 1.85	Price Per Thousand 5000 2.40 10000 2.00 25000 1.85	Price Per Thousand 5000 2.55 10000 2.10 25000 1.95	Price Per Thousand 5000 2.55 10000 2.10 25000 1.95
7	Price Per Thousand 5000 2.55 10000 2.10 25000 1.95	Price Per Thousand 5000 2.70 10000 2.40 25000 2.25	Write for special Quotation			

Square Inch System

By multiplying the length by the width of any label you arrive at the square inch area. This is the basis for our method of pricing labels. The scale above SIMPLIFIES a simple method.

For example, a label 3" wide and 5" long measures 15 square inches (3" x 5"). When placed in the bottom left corner of the chart it strikes a square showing that this label in quantities of 5000 costs $1.90 per 1000, 10,000—$1.70 and 25,000—$1.50.

We have on pages 4 to 19 of this catalog attempted to show the types of labels most intimate to your own business. Consider every label as an idea that, with changes, may suggest some practical application to your own needs.

1 PRICES 2
Per Thousand
5,000 - 60c
10,000 - 55c
25,000 - 45c
Ever Ready Holder FREE with your order
• PAPER—white gummed • INK—choice of red or blue • Perforated in rolls (cut single if preferred) • Second color—add 25% • Colored paper—add 25% (25,000 or more; in smaller quantities request quotation) • For available colors see page 47 • For ungummed papers or larger quantities, write for special quotation.
Ever Ready LABELS
FOR IDENTIFICATION ADVERTISING
—including marking merchandise—to indicate price and contents—for inter-office notations—for factory inspection—for salesmen's stickers, and other uses suggested by illustrated labels.
Where manufacturing economies are important, large users of small labels should submit details of requirements for special consideration, i.e., quantities of 25,000 or over.
FINEST QUALITY
WESTON Cunningham PARKERS HOME MADE PRODUCTS
RYE BREAD
No. 455 1 x 1 in.
ALL OF OUR EMPLOYEES and EXECUTIVES ARE BONDED FOR YOUR SECURITY
No. 456 1 x 1 in.
SAMPLE of
No.
Price $ per Gr.
Columbia Plush & Puff Co.
231 McKibbon St. Brooklyn
453 W. Erie St. Chicago
145 Fremont St. San Francisco
No. 483 1¼ x 1¼ in.
DEALER'S NAME AND ADDRESS HERE
WE RECOMMEND Cunningham RADIO TUBES
Date Sold
Date Tested
Satisfactory
Unsatisfactory
Doubtful
No. 484 1½ x 1¼ in.
THE L & L MEN'S SHOP GAINESVILLE, FLA. 75¢
No. 457—¾ x 1 in.
FROM E. BUNCHER PAINTS—HARDWARE MILLBURN, N. J.
No. 458—¾ x 1¼ in.
AMSCO PRODUCTS
No. 459 ½ x 1¼ in.
PALISADE BAKERY
J. KUPISZEWSKI, PROP.
242 Palisade Avenue
GARFIELD, N. J.
Phone: PAssaic 2-8756
No. 460 1 x 1 in.
MACY'S FILLED IN STOCK ROOM
No. 462 ¾ x 1 in.
Regular Price $1.00
SPECIAL 75¢
No. 463 ½ x 1¼ in.
NRA
REGISTRATION 19—3
ISSUED BY PICTURE MOULDING AND PICTURE FRAME CODE AUTHORITY
No. 461 1 x 1 in.
FOR SALE BY SOUTHERN BEAUTY SUPPLY CO.
245 Granby St. Norfolk, Va.
PHONE 41765
No. 466 1 x 1 in.
RAYTHEON
No. 485 1 x 1½ in.
JAMES M. McCUNN & CO
N. Y. Distributo
N. Y. STATE LICENSE NO. L L 153
314 WEST 14th ST. ★ NEW YORK
No. 486 ⅝ x 3 in.
Sec. 562 P. L. & R.
U. S. POSTAGE
PAID
Brooklyn, N. Y.
mit No. 561
No. 487 1 x 1½ in.
VIA AIR MAIL
No. 488 ¾ x 2 in.
W. F. SMITH
NEWARK BUICK CORP.
198 CENTRAL AVENUE
MAR. 2-0940 Newark, N. J.
REPRESENTING
BUICK PONTIA
No. 489 1 x 1½ in.
RADIA-LITE
Lamp Pull
SHINES IN THE DARK
No. 490—1 x 1½ in.
★ CHEMICAL BANK & TRUST COMPA
320 Broadway
New
½ x 3½ in.
Gross Dozen Pieces Customer
Style
Their No.
No. 492—1 x 1¾ in.
CHARLES SCRIBNER'S SONS
Educational Department
No. 464 1 x 1 in.
NEW YORK OFFICE
TELEPHONE
WISCONSIN 7-1288
No. 464 ½ x 1¼ in.
Complies with A. D. A. Specification No. 6
Batch No.
No. 469 1 x 1 in.
MADE IN U. S. A.
No. 468—⅓ x 1½ in.
MONOCRAFT
Style
Price
24K GOLD OR SILVER FINISH
No. 467 ¾ x 1 in.
COMPLIMENTARY
must not be sold
No. 470 ½ x 2 in.
FOR SALE BY GIMBEL'S
PHILADELPHIA
NEW YORK
No. 471 ¾ x ¾ in.
J. E. DoubleRY
VOGEL
MUSIC CO., INC.
No. 493 2 x 1¼ in.
Pittsburgh China Co.
302 Market Street
PRICE
NO.
COST
No. 472 1 x 1 in.
NATIONAL OLD AGE PEOPLE'S PENSION and UNEMPLOYED ASSOCIATION
No. 473 ¾ x ¾ in.
MADE IN U. S. A.
No. 474 ⅓ x ½ in.
WILLIAM KLAHR
Plate GLASS Window
X No. 475
22 So. Lexington Ave.
White Plains, N. Y.
Phone W. P. 5787
1 x 1 in.
HYGEIA PROFESSIONAL PHARMACY, INC.
M. Berlind APOTHECARY
No. 494—½ x 3 in.
MAILED
— BY —
REQUEST
Please Deliver to person addressed IMMEDIATELY upon receipt from POSTMASTER
No. 496—2 x 1 in.
WAGGONER REFINING CO., Inc.
ELECTRA — TEXAS
DDD MOTOR OILS
Oil Changed
Date Greased
No. 495—1 x 2 in.
glamour nail polish
the hanovan co. paris new york
No. 498 2 x ¾ in.
GUARANTEED
ALL WOOL
No. 476—½ x 1¾ in.
15c DEPOSIT ON THIS KEYSTONE CONTAINER
No. 479 1 x 1 in.
Tested and Approved by 4520 Bureau of Foods, Sanitation and Health GOOD HOUSEKEEPING MAGAZINE
No. 478—¾ x 1¼ in.
Distilled by
COLONIAL DISTILLING and DISTRIBUTING CORPORATION
390 Greenwich Street New York, N. Y.
N. Y. State A B C Board DLB-6
No. 497—1 x 2 in.
BIOLOGY DEPARTMENT
No. 477—1 x 1 in.
The IDEAL To Duplicate Order No. 55 MADE BY THE J. L. HANSON CO. CHICAGO, ILL.
No. 480—¾ x 1 in.
INTERCHANGEABLE
—FOR—
STANDARD TYPEWRITERS
No. 481—½ x 2 in.
DAMAGED BEFORE BEING PACKED SUBURBAN STORAGE
No. 482—1 x 1 in.
Chicken or Cheese Ravioli
No. 499—½ x 4 in.
"NO ONE OFFERS WHAT EVER READY OFFERS"

Ever Ready Labels

3 SQUARE INCHES (ON THIS PAGE)

PRICES

Per Thousand	
5,000	70c
10,000	65c
25,000	55c

New York City
CHRISTIAN ENDEAVOR UNION
HEADQUARTERS
SECOND PRESBYTERIAN CHURCH
3 W. 95th St.
3rd Thursday Each Month

No. 500—1½ x 2 in.

DO NOT SEND TO FILE
REFER TO

No. 501—2 x 1½ in.

H. J. ELECTRIC CO., Incorporated
LICENSED
Electrical Contractors
85 KENMARE ST. NEW YORK CITY
TELEPHONE • CANAL 6-8284

No. 502—1⅞ x 2½ in.

Ever Ready Holder
• PAPER—white gummed. • INK—choice of red, blue or black. • Perforated in rolls or cut single if preferred. • Second color—add 25%.

HOME MADE
Spanish
RELISH
★
OLD LOG BRAND
★
Schaefer & Aldridge
Indianapolis
NET WEIGHT 7 OZS.

No. 503—2¼ x 1¼ in.

ORIGINAL INVOICE
INSIDE THIS PACKAGE

No. 504—1 x 3 in.

THIS INVOICE
SUBJECT TO
2% DISCOUNT
10th OF MONTH
FOLLOWING DATE OF
INVOICE OR
NET 15th OF SECOND
MONTH FOLLOWING
DATE OF INVOICE

No. 505—1¾ x 1½ in.

French
Hand and Skin
Balm
Restores moisture to dry skin, makes chapped, rough, red skin smooth, soft and white.
CHEMICAL SPECIALTIES CO.
New York, N. Y.

No. 511—⅜ x 1¼ in.

Purchased by
Greig & Greig
LL 32
IMPORTERS of RARE WINES & SPIRITS
342 Madison Avenue
New York City

No. 506—1 x 2¾ in.

LOTIA VELVA
Soothes chapped, rough and red skin and hands—keeping them smooth and white. Excellent, to relieve and prevent Sun or Wind Burn—after household work—before and after shaving.
Apply very sparingly massaging well into skin until dry—not sticky.

No. 507—2 x 1⅜ in.

EASTERN AGENTS
MAYNZ & CO.
1775 BROADWAY NEW YORK CITY
TELEPHONE: CIRCLE 7-6825

No. 508—1 x 2½ in.

NOTE

These labels cover a wide range of general utility purposes. Note No. 522 offering a manufacturing or identification system. Ever Ready's presses can number and perforate to make the label flexible for the most difficult requirements. These, of course, are subject to special quotations. No. 514 is used by a coal vendor indicating that no business or profession exists that cannot profitably use Ever Ready labels.

POSTER STAMPS

Labels of these sizes are particularly adaptable for use as poster stamps—so popular in present day merchandising. We will gladly submit ideas for the use of poster stamps as sales stimulators in your business.

Refer to Pages 36-37

FIFTH
PACKAGING EXPOSITION
PALMER HOUSE
CHICAGO
MARCH 5-8 1935

No. 509—2¾ x 1½ in.

O. K. ☐
FEEBLE ☐
REPLACE FOR GOOD RECEPTION
MODERN RADIO SERVICE
815 WEST 181st STREET
WAshington Heights 7-4226
Date

No. 510
1½ x 1½ in.

FOR ALL TEXTURES OF HAIR
Fill with Liquid No. 2 even with the top edge of sticker. Then add Liquid No. 1 and shake well. This quantity when mixed is sufficient for 34 to 36 curls.
Milkee Process

No. 512—1 x 2½ in.

WE ARE
CO-OPERATING
with
BETTER • HOUSING • PROGRAM
REPAIR-ALTER-IMPROVE

No. 513—2 x 1½ in.

RED DEVIL
COAL
EXCLUSIVE DISTRIBUTOR IN WESTCHESTER COUNTY
WESTCHESTER COAL CORPORATION
PALMLEDING ST., WHITE PLAINS
Tel WHITE PLAINS 7000

No. 514—2 x 1½ in.

EVER READY ROLL LABELS SAVE LABO

Ever Ready Labels

4
SQUARE INCHES
(ON THIS PAGE)

PRICES
Per Thousand
5,000 - **90c**
10,000 - **80c**
25,000 - **70c**

REE with your order
plored paper—add 25% (10,000 or
INK—choice are). For available colors see page 47. •
rated in rolls or larger quantities, or ungummed paper,
econd color rite for quotation.

Courage that Propels
banishes, Fear, Worry, Gloom, Despair; gives moral incentive and purpose. "15 reassuring messages of God's power and comradeship in times of crisis," commends Christian Century.
By G. Ray Jordan $1
A COKESBURY GOOD BOOK
No. 515—2½ x 1½ in.

Prices on this order are subject to increase due to any Federal or State laws taxing raw or processed materials or governing the working hours or compensation of labor.
No. 517
1 x 3½ in.

NEUMAN'S FAMOUS COFFEE
C. J. NEUMANN COFFEE CO., Inc.
833 ST. JOHN'S PLACE BROOKLYN, N. Y.
Famous Coffees & Teas
PHONE: PRes 4-4700
No. 516—1¼ x 3 in.

CLINIC OF THE
Cornell University Medical College
1ST AVE. & 27TH ST. N. Y.
_____ teaspoonful in _____
water_____
after meals. _____ times a day
SHAKE
No. 521
1¾ x 3¼ in.

INTERNATIONAL SHORT WAVE RADIO CLUB
No. 518—2 x 1¾ in.

CELEBRATE
ARMISTICE DAY
(November 11th)
WITH THE
AMERICAN LEGION
IN BETHLEHEM
MONSTER PARAD
and CELEBRATIO
No. 519—2 x 2 in.

HOLIDAY SPECIAL
BIRDSEYE FROSTED FRESH RASPBERRIES
11c per pint
Use like Fresh Raspberries
HENRY KELLY SONS, Inc.
413 WEST 14 NEW YORK
No. 520
2 x 2 in.

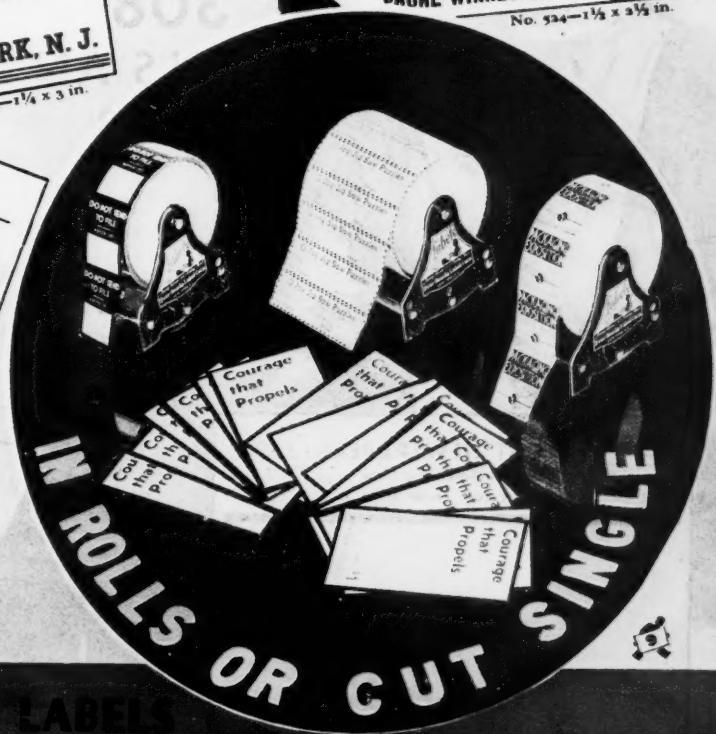
WERSTED MOTOR CO.
A Loan Battery Was Installed To-day
Rental Charge per day 25c
Minimum Charge 50c
YOUR BATTERY WILL BE READY IN TWO OR THREE DAYS
PHONE WINNETKA 165
No. 524—1½ x 3½ in.

No. A 09988
No. A 09988
No. A 09988
LICENSED UNDER LEKTOPHONE PATENTS—1,271,527 1,271,529 1,271,528
OTHER PATENTS PENDING
No. 522—2½ x 1½ in.

RETURN POSTAGE GUARANTEED
CONTENTS: FOURTH CLASS MAIL.
POSTMASTER: This parcel may be opened for postal inspection if necessary.
COTEX CORP. ★ NEWARK, N. J.
No. 523—1¼ x 3 in.

Sample of _____
- Batch or Mix No. _____
- Package No. _____
- Weight _____
- Shipped _____

GENERAL ANILINE WORKS, INC.
Union County Grasselli, N. J.
No. 525—2 x 2 in.



O-Joy Jig Saw Puzzles
TITLE _____
No. Pieces _____ Price _____
No. 526—1 x 3½ in.

LABOR COSTS MORE THAN LABELS

EASIER TO HANDLE · QUICKER TO ADDRESS

In accordance with Rule 5 Article 5 of the Code, the terms of this Invoice is 1% 10 Days, Net 15th Proximo. Your co-operation in paying this Invoice within these terms will be greatly appreciated.
No. 527—1½ x 4 in.
CONTENTS: MERCHANDISE, FOURTH CLASS MAIL. POSTMASTER: This parcel may be opened for postal inspection if necessary.
— FROM —
The Triple AAA Tablets
BUFFALO
Triple AAA Tablets
RETURN POSTA
No. 529—2 x 3 in.
Barbara Bates
MAPLEWOOD KNITTING PINS
Doz. Pairs
Size
mm
Inch
No. 528
1¼ x 4 in
THE PORT of NEW YORK AUTHORITY
FORM No
CONTENTS
QUANTITY
SIZE
No. 530
1½ x 3½ in
RUSH
Hurry this with all possible speed
RECEIVED BY
SIGNED
HOUR
The C. S. Co.
No. 531—2 x 3 in.
6
Square Inches
5,000 - $1.15 per 1,000
10,000 - 1.00 per 1,000
25,000 - .90 per 1,000

WORLD'S NOVICE TYPING CHAMPION

ROYAL TYPEWRITER COMPANY, INC.
2 PARK AVENUE, NEW YORK CITY

The Ever Ready Label Corporation,
New York, N. Y.

Gentlemen:

In testing your label feeding device for a period of one hour against one hour's addressing of labels in the usual individual insertion manner, I found that, with this device I addressed 308 labels in the one hour and 240 feeding them individually.

This is a saving of time of 22% and I feel that, in view of the fact that I had never used this device before, a little practice with it would enable me to make this time-saving percentage even greater.

Yours very truly,
A.F. Neuenhaus
A.F.Neuenhaus,
Special School Demonstrator.

FREE
Ever Ready Roll Label Holder with first order.

10

ESS EVER READY LABELS "Go Places–Do Things"

6
ches Square Inches

r 1,000
r 1,000
r 1,000

PAPER—white gummed or ungummed. • INK—choice of red, blue, black, green or brown. • Perforated in rolls or cut single if preferred. • Specify position of perforation if intended for typewriter use. • Second color—add 25%. • Colored paper—add 25%. • For available colors see page 47.

NAPHTHA
BEWARE OF
MMABLE VAPORS
TION: Do not open this
ottle in any room in which
there is fire or any open flame
ARITAN CHEMICAL CO.
DISTRIBUTORS
No. 533
2 x 3 in.

100,000
Labels run through Addressing Machine for Schenley's Emergency Mailing.

• FROM •
Schenley Distributors, Inc.
20 WEST 40th STREET
NEW YORK CITY
Wholesaler's Liquor License No. 119
To

INITIAL AND FORWARD
Assistant Vice President
General Copy Manager
General Information Manager
Office Manager
Supv. of Advertising Accounts
File
See pages
Return to Advertising and General Information Department
No. 535—2 x 3 in.

AIR TICKETS
— AND —
RESERVATIONS
— Call —
AIRLINES TICKET OFFICE
ROOSEVELT HOTEL (Arcade) N. Y. C.
VAnderbilt 3-0490
No. 536—1½ x 3¼ in.

No. 534
2 x 3 in.

IMPORTANT
Washing Directions
for
dri-dee
DISPOSABLE BABY-PAD HOLDER
and
SUN dry-dee
Make rich, luke-warm LUX suds. Never soak, unless garment is unusually soiled; then only for a short time. Squeeze suds through and through garment. Do not rub. Rinse in three luke-warm waters. Gently squeeze out water. Roll in turkish towel—knead out moisture—unroll at once—dry in shade. Do not roll up or wring. DUST WATERPROOF POCKET with TALCUM POWDER. Press with warm—NOT HOT—iron.
No. 539
3¼ x 1¾ in.

Special for
Inspect
No Starch in Shirts
No Starch in Anything
Collars Soft
Collars Stiff
Heavy Starch in C. A. Shirts
Light Starch in Shirts
Iron Bath Towels
Dry Bath Towels
Box
No. 537
2 x 3 in.

IMPERIAL
Washable
WALLPAPER
fast to light
MFD. UNDER U. S. PAT. NO. 1,950,279
GLENCRAFT
No. 538—2½ x 2¼ in.

Chaperone Your Cigarettes
THEY SHOULDN'T GO OUT ALONE!
No. 543—1¾ x 3 in.

WESTCHESTER PUBLICITY ★
31 Hemingway Ave. ★ New Rochelle, N. Y.
RETURN POSTAGE GUARANTEED
No. 540—1¼ x 4 in.

From THE JUNKET FOLKS
CHR. HANSEN'S LABORATORY, Inc. LITTLE FALLS, N.Y.
No. 542—1½ x 3½ in.

That's Cooperation!
The VOGUE Merchandising Department has planned cooperative events for many leading stores ◆ ◆ ◆ ◆ *Let us submit a program to you*
No. 541—1" x 5 in.

Ever Ready Labels

8 SQUARE INCHES

PRICES
Per Thousand
5,000 - $1.35
10,000 - 1.90
25,000 - [illegible]

Ever Ready Holder
• PAPER—white gummed or ungummed.
• INK—Choice of red, blue, black, green or brown. • Perforated in rolls or cut

PROPERTY OF
Meigs County Relief Commission
NOT TO BE *sold* OR *bartered*
Unauthorized Division of Use of this Property Punishable under the Law.

No. 544—2 x 4 in.

Samples from
Burch-Stratton Paper Co.
111 South Church Street Schenectady, N. Y.

Grade _____

Color _____

Finish _____

Size and Weight _____

No. 545—3 x 2½ in.

Borden's
99 HUDSON ST., NEW YORK, N. Y.
Postmaster: RETURN POSTAGE GUARANTEED

No. 546—2⅝ x 2¾ in.

CONTENTS MERCHANDISE
POSTMASTER: This parcel may be opened for postal inspection if necessary
If addressee has removed notify sender on FORM 3547 Postage for which is GUARANTEED
FRAGILE LIQUID

FROM: WILLIAM R. WARNER & CO
MANUFACTURING PHARMACEU
112 WEST 18TH STREET, NEW YORK
RETURN POSTAGE GUARAN
To

Note—Reference Form 3547—keeps your mailing list up to date. Post Office advises you of changes at a cost of 1c each.

No. 547—2 x 4 in.

POSTMASTER — Contents: Merchandise (4th Class) May be opened for postal inspection if necessary.
FROM
LANE COMPANY
108 W. Madison Street
CHICAGO
This package is valuable. If undeliverable please return after 5 days. Postage for return will be paid on delivery to sender.

To _____

FRAGILE

No. 548—3 x 2½ in.

100 Capsules
DISULPHAMIN
(REGISTERED U. S. TRADE MARK)
7½ GRAINS
Sulpho - Salicylo - Formol - Nucleino - Sodium Dimethylamino - Antipyrin - Bicamphorated.
- Empty contents of capsules in water as directed by Physician.
- DO NOT SWALLOW CAPSULE.
- Dispensed only on Physician's Prescription.

AMERICAN BIO-CHEMICAL COMPANY, Inc.
79 Madison Avenue New York, N. Y.

No. 549—3 x 2½ in.

RETURN IN SIX DAYS TO
Rings O' Romance
REG. U. S. PAT. OFF.
B. & E. J. GROSS CO., Inc., 64 W. 48th ST., NEW YORK, N. Y.
Registered
Number
TO _____

No. 550—2½ x 3 in.

THE POST OFFICE has definite rules and regulations... Not to know them may cause needless expense.

EVER READY has secured for you an official **O. K.** on 14 Parcel Post Label Forms.

Please turn to page 44

No. 551—2 x 4 in.

The Telephone Company measures its charge according to the distance you speak. Ever Ready's yardstick for labels is the size of the paper.

Ever Ready* Roll Label *holder* FREE *with order

The Telephone Company is not interested in what you say over that distance—nor are we interested in what you print as your copy.

Ever Ready Labels

10 SQUARE INCHES

PRICES
Per Thousand
5,000 - $1.50
10,000 - 1.30
25,000 - 1.10

FREE with your order
single if preferred. • Second color—add 25%. • Colored paper—add 25%. For available colors see page 47.

YOU RECENTLY INQUIRED ON THIS ACCOUNT—THIS AUTOMATIC RECHECK OF YOUR EXPERIENCE IS TO PERMIT OUR ACTIVE UNDERSTANDING OF ITS PAY CONDUCT—PLEASE FILL IN AND RETURN PROMPTLY.

HIGH CREDIT RECENT	AMOUNT OWING	AMOUNT PAST DUE	TERMS	MANNER OF PAYMENT			DATE OF LAST SALE	ACCOUNT DECLINED	ACCOUNT GUARANTEED
				DISCT.	PROMPT	SLOWNESS			

REMARKS

No. 552—1½ x 6 in.

JM PRODUCT
Johns-Manville
22 East 40th Street, New York, N. Y.
Order No.
Req. No.
FORM X-3F.C.
No. 553—3¼ x 4 in.

CONTENTS: MERCHANDISE
FOURTH CLASS MAIL.
Postmaster: This parcel may be opened for postal inspection if necessary.
RETURN POSTAGE GUARANTEED
From...
PACKER MANUFACTURING CO., INC.
101 WEST 31st STREET
NEW YORK, N. Y.
Return Postage Guaranteed
No. 555—2 x 5 in.

FULLER RADIATOR BRUSH
Genuine Fuller Products carry this Red Tip Tag and trade mark
Fuller
Look for both!
The Fuller Radiator Brush, like all Fuller personal and household products, can be bought only from the Fuller Man who brings them right to your home. To have him call, write or phone nearest branch office or
THE FULLER BRUSH COMPANY
HARTFORD, CONN.
No. 554—3¾ x 3¼

from Prudence
DELAWARE TRUST BLDG., WILMINGTON, DEL.
No. 557—2½ x 3½ in.
You Sent For This

Mayonnaise Institute Inc.
154 EAST 32nd STREET
NEW YORK CITY
No. 558—2½ x 4 in.

DIRECTIONS FOR REMOVING STEEL HEAD
1. Insert broad blade of screw driver under upward prongs of steel.
2. Bring both ends as nearly together as possible.
3. Use screw driver blade as lever under head of rivet to pull through hole.
"A Sheffield Product"
No. 560—2½ x 3¾ in.

DOWD & MURRAY
REAL ESTATE AND INSURANCE
366 MADISON AVENUE
NEW YORK
MURRAY HILL 2-2910
No. 561—2 x 5 in.

RETURN CARRYING CHARGES GUARANTEED
Publishers The Classified Telephone Directories
The Reuben H. Donnelley Corporation
305 East 45th St. New York, N. Y.
No. 556—3¼ x 4 in.

SCHOOL THRIFT 22 East 40th Street, New York, N. Y.
MERCHANDISE
No. 559—2½ x 4 in.

WALTER T. FOSTER ART BOOKS
From Tustin, California
From Wilmington, Ohio
No. 562—2½ x 4 in.

The National Electrical Wholesale Code of Fair Competition provides—
CASH DISCOUNTS
"It shall be an unfair trade practice for a member of the trade to allow a discount for cash on accounts remaining unpaid after the tenth of the calendar month following date of shipment."
All wholesalers are required to adhere to this rule under penalty.
VIKING PRODUCTS CORP.
No. 563—2 x 4½ in.

Remember—there must be a yardstick for every commodity. We have attempted to base ours on an intelligent application plus mass production.

Roll Labels *mean* Speed, Efficiency, Economy • No waste

Well suited for shipping labels, as well as for guarantee, instruction and product-description labels—to say nothing of a variety of innumerable other uses.

Ever Ready LABELS

12 SQUARE INCHES

PRICES
Per Thousand
5,000 - **$1.70**
10,000 - **1.50**

***Ever Ready* Holder**
• PAPER—white gummed or ungummed.
• INK—Choice of red, blue, black, green or brown. • Perforated in rolls or cut

INTERNATIONAL SILK GUILD, Inc.
250 FIFTH AVENUE • NEW YORK
To
No. 564—3 x 4 in.

FROM
TECHNICAL PRODUCTS COMPANY
INSA-LUTE ADHESIVES — sauer sisen — CEMENTS COMPOUNDS
PITTSBURGH (15) PENNSYLVANIA
ORDER NO. REQ. NO. CONTENTS NO. PKGS.
TO

PLEASANTVILLE PUBLIC SCHOOL
ROSELLE AVENUE SCHOOL
FREE TEXT-BOOK LIBRARY
Number Cost
Added
Do not mark or deface this book. Keep it covered. Fines will be imposed for abuse of books. Books will be denied pupils who do not take good care of them.
BOARD OF EDUCATION
No. 567—4 x 2¾ in.
No. 569 2¾ x 4 in.

CONTENTS: MERCHANDISE, FOURTH CLASS MAIL.
POSTMASTER: THIS PARCEL MAY BE OPENED FOR POSTAL INSPECTION IF NECESSARY
from *Eversweet*
PRODUCTS CORPORATION
54 Fulton Street, New York, N. Y.
RETURN POSTAGE GUARANTEED
To
ORDER NO. DEPT.
No. 566—3 x 4 in.

RUSH VIA
TO AMERICAN BLUE PRINT CO
40 EAST 34th ST. ROOM 1210
No. 571—3 x 4 in.

A. G. SPALDING & BROS
To
No.
No. 572—3¼ x 4½ in.

CELLA BROTHERS INC
CALIFORNIA
CHABLIS
No. 575—3 x 3½ in.

ALWAYS
LAKE WORTH, FLA
Junior Chamber of Commerce
No. 573—2½ x 4½ in.

PAID
No. 568—2 x 6 in.

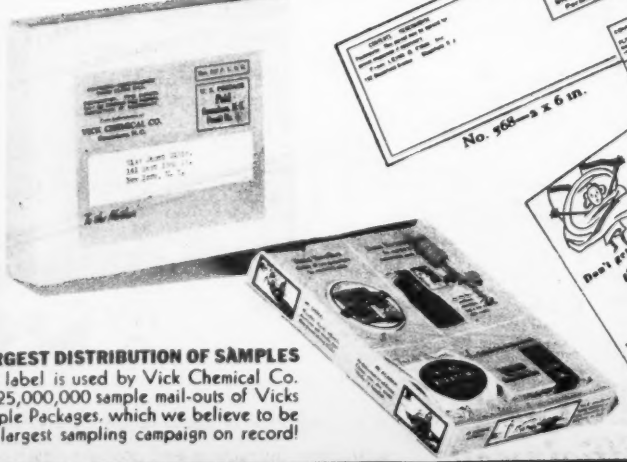
DONAHUE & COE, Inc.
Advertising
1790 BROADWAY
New York City
To
No. 574 2¾ x 4 in.

CHILTON CAP-LOX DISPLAY
No. 576—2½ x 4½ in.

Don't get confused over the CURTAIN CLEANING PROBLEM!
BRIARCLIFF LAUNDRY
No. 570—4 x 3 in.

SEMNET'S PORTFOLIO OF PICTURES
No. 577 3 x 3½ in.

THE LANDSMAN METHOD, Inc.
To
No. 578—2 x 5¼ in.



LARGEST DISTRIBUTION OF SAMPLES
This label is used by Vick Chemical Co. on 25,000,000 sample mail-outs of Vicks Sample Packages, which we believe to be the largest sampling campaign on record!

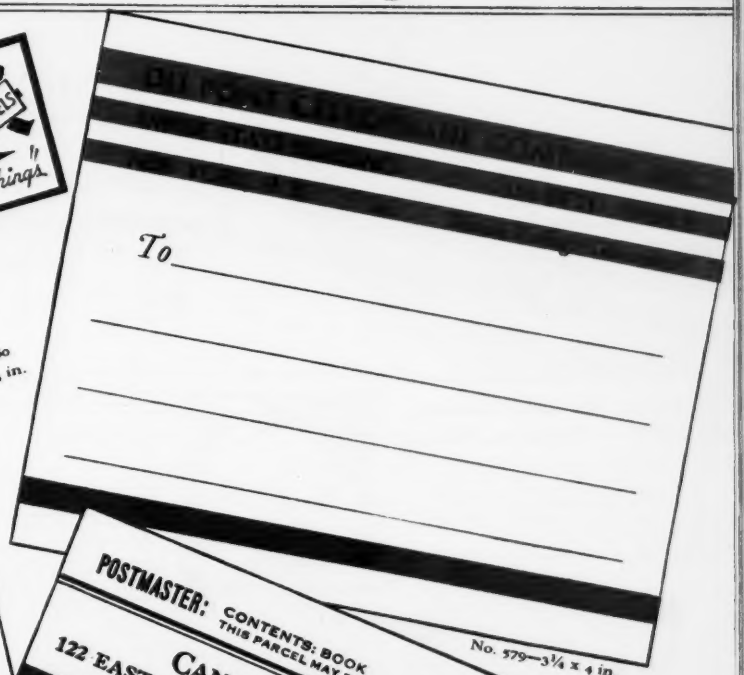
LABELS OF THESE SIZES CARRY SQUARELY INTO THE STANDARD SHIPPING, INSTRUCTION & PRODUCT CLASSIFICATIONS
ALL LABELS ILLUSTRATED ON THESE PAGES AND THROUGHOUT THE BOOK ARE FOR SUGGESTIONS ONLY.

14 SQUARE INCHES

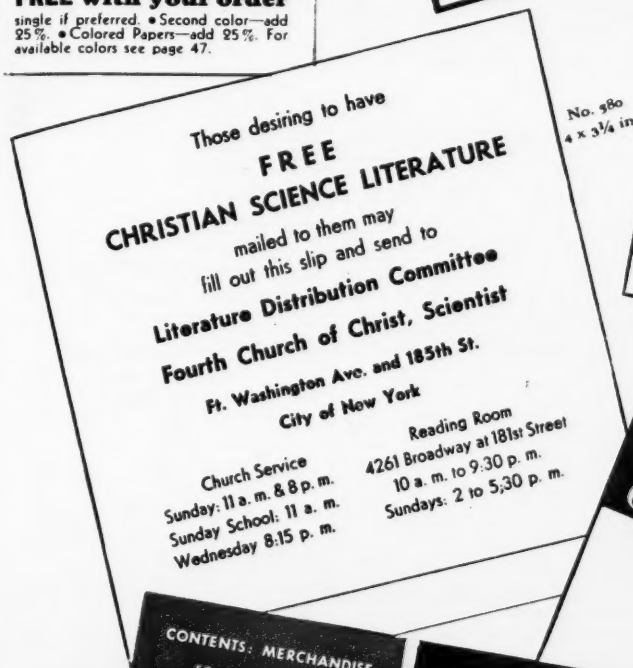
Ever Ready LABELS

PRICES
Per Thousand
5,000 - **$1.80**
10,000 - **1.60**

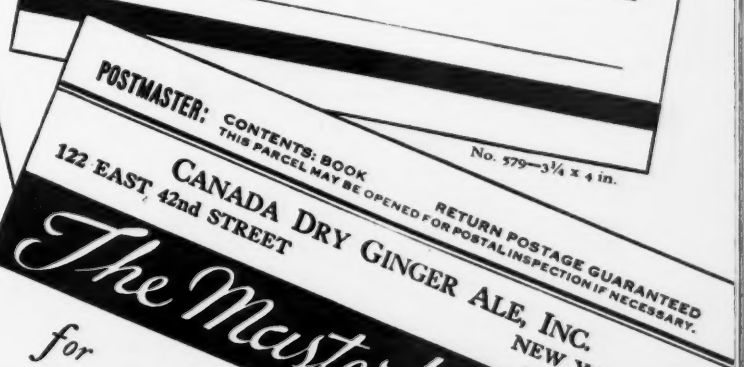
FREE with your order
single if preferred. • Second color—add 25%. • Colored Papers—add 25%. For available colors see page 47.



No. 579—3¼ x 4 in.

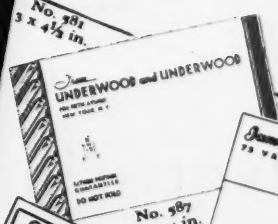

Those desiring to have
FREE
CHRISTIAN SCIENCE LITERATURE
mailed to them may
fill out this slip and send to
Literature Distribution Committee
Fourth Church of Christ, Scientist
Ft. Washington Ave. and 185th St.
City of New York
Church Service
Sunday: 11 a. m. & 8 p. m.
Sunday School: 11 a. m.
Wednesday 8:15 p. m.
Reading Room
4261 Broadway at 181st Street
10 a. m. to 9:30 p. m.
Sundays: 2 to 5:30 p. m.

No. 580
4 x 3¼ in.

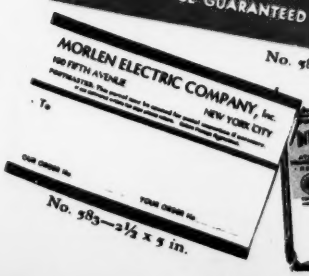

POSTMASTER: CONTENTS: BOOK
THIS PARCEL MAY BE OPENED FOR POSTAL INSPECTION IF NECESSARY.
RETURN POSTAGE GUARANTEED
CANADA DRY GINGER ALE, INC.
122 EAST 42nd STREET
NEW YORK, N. Y.
The Masterly Touch
for

No. 582—3 x 4½ in.

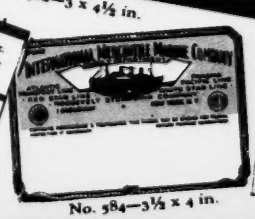
No. 581
3 x 4½ in.



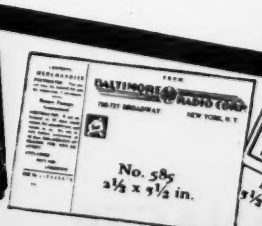
No. 587
3½ x 4 in.



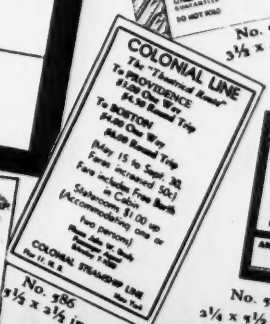
No. 583—2½ x 5 in.



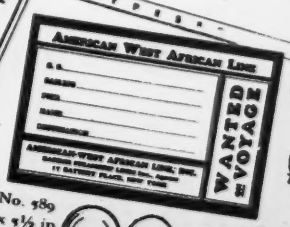
No. 584—3½ x 4 in.



No. 585
2½ x 3½ in.



No. 586
3½ x 2½ in.



No. 588
2¾ x 4½

No. 589
2¼ x 3½ in.

30,000 CUSTOMERS TESTIFY TO OUR ABILITY TO PRODUCE AND PLEASE!

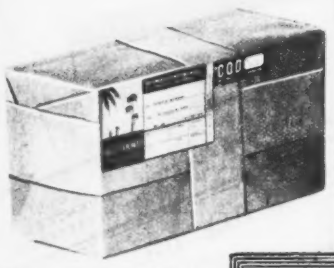
Ever Ready Will Gladly

Ever Ready Labels

15
SQUARE INCHES
PRICES
Per Thousand
5,000 - $1.90
10,000 - $3.70

***Ever Ready* Holder FREE with your order**

- PAPER—white gummed or ungummed.
- INK—Choice of red, black, blue, green or brown. • Perforated in rolls or cut single if preferred. • Second color—add 25%. • Colored Papers—add 25%. • For available colors see page 47.



Suggested Sizes

for 15 Sq. inch labels:

3 x 5
2½ x 6
2½ x 5¼
2¾ x 4¼

for 16 Sq. inch labels:

4 x 4
3½ x 4½

NATIONAL ASSOCIATION of CREDIT MEN

ONE PARK AVENUE
NEW YORK, N. Y.

CONTENTS: MERCHANDISE
POSTMASTER: This parcel may be opened for postal inspection if necessary

To

from

ATHLETIC PHARMACY
INCORPORATED
921 SEVENTH AVE. at 58th ST. NEW YORK CITY

No. 590—3 x 5 in.

CIRCLE

No. 591—3 x 5 in.

FOR
"RED COAL"
Telephone
SOUTH 8-1600
Ask for
RED COAL CO.
175 DOUGLASS STREET
BROOKLYN, N. Y.

No. 594

CONTENTS: MERCHANDISE
POSTMASTER: THIS PARCEL MAY BE OPENED FOR POSTAL INSPECTION IF NECESSARY.
POSTAGE GUARANTEED

FROM,
Postal Telegraph-Cable Company
360 FURMAN ST. BROOKLYN, N. Y.

To Postal Telegraph-Cable Company

No. 592—3 x 5 in.

OCTOBER
HECHT

PASSENGERS
IN THE INTEREST OF SAFETY
PLEASE SIT BACK
COMFORTABLY IN YOUR SEATS
AND KEEP HANDS CLEAR OF
OPEN DOORS.
Thank You!

No. 595

No. 596

From FADA RADIO AND ELECTRIC CORPORATION
FADA

No. 597

From New York Steam Corporation

No. 598

from ALAN W. BOWSER
OIL EQUIPMENT AND SUPPLIES
DALLAS, TEXAS

No. 599

FROM OVINGTON'S

No. 600

WRIGHT'S
WRIGHT'S UNDERWEAR COMPANY, Inc.
To

No. 601

Advertising Matter
●
Deliver At Once
to the
ADVERTISING MANAGER

No. 593—3 x 5 in.

Solve Your Label Problems!

Ever Ready Labels

16 SQUARE INCHES

PRICES
Per Thousand
5,000 - $2.00

CONTENTS: MERCHANDISE. RETURN AND FORWARDING POSTAGE GUARANTEED
POSTMASTER: THIS PARCEL MAY BE OPENED FOR POSTAL INSPECTION IF NECESSARY

WESTINGHOUSE LAMP COMPANY
BLOOMFIELD NEW JERSEY

To

No. 602—3 x 5¼ in.

EVE

Typewriter Educational Research Bureau
100 East 42nd Street - - - New York

***Ever Ready* Holder FREE with your order**

• PAPER—white gummed or ungummed. • INK—Choice of red, black, blue, green or brown. • Perforated in rolls or cut single if preferred. • Second color—add 25%. • Colored Papers—add 25%. • For available colors see page 47.

All labels illustrated are merely suggestions. You may utilize any size or proportion to accommodate your own copy or arrangement.

Return

No. 603—3½ x 4½ in.

• FROM •
CALIFORNIA REDWOOD ASSOCIATION
Eastern Division
101 PARK AVENUE NEW YORK, N. Y.

No. 604—3¼ x 5 in.

FLINTKOTE
BUILT-UP ROOFING
SPECIFICATION C-3-W-S

No. 605—4 x 4 in.

SALES management

No. 607

BAKELITE CORPORATION

No. 606

No. 608

Westinghouse Electric Supply Company

No. 609

PENN CENTRAL LIGHT & POWER CO.

No. 610

MICHAEL OF THE WALDORF

WALDORF-ASTORIA SOUTHAMPTON L.I. NEW YORK

KRO-KO WAVE

No. 613

From R. H. MACY & CO BROADWAY at 34th STREET

CAMERA DEPT 5th Floor

THIS PACKAGE CONTAINS PROCESSED 16 mm SAFETY FILM

MACY

To

No. 612

FALSTAFF PRESS

No. 611

Do Not Open this package until all other parts of this form have been used

Then . . . show this last package to the Purchasing Department so that they may order more from the

GED-A-DUDDY PRINTING COMPANY

No. 615

No. 616

The Slick-Shine Co., Inc.

for S. H. KRESS & CO.

AS FURNITURE POLISH IN CONTAINERS

PETER HENDERSON & CO.

No. 614

This spec
Viskalt Sa
top edge
Asphalt b
Surfaced
foot. Ten

IN ROLLS OR PADS

Advertising Matter
Deliver At Once
ADVERTISING MANAGER

Ever Ready LABELS 18 SQUARE INCHES

POSTMASTER: This parcel may be opened for postal inspection if necessary. Return Postage Guaranteed.

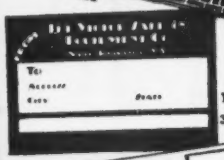
HAGSTROM COMPANY
INCORPORATED

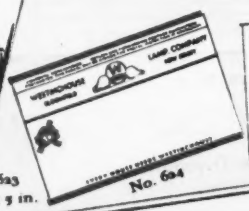
COMMERCIAL ART — DRAFTING — PHOTOGRAPHY
MAP MAKERS — MAP PUBLISHERS

20 VESEY STREET EST 1916 NEW YORK CITY

No. 620—3 x 6 in.

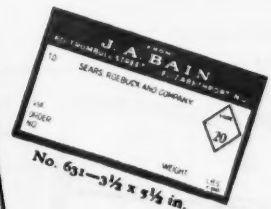
PRICES
Per Thousand
5,000 - $2.20
10,000 - 1.85

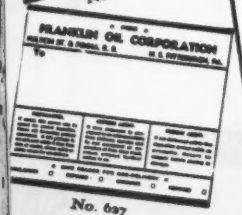




STILLWELL 4-8885
8886

U.S. CONTROL **U S** REAGENTS
RESEARCH

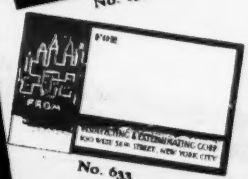


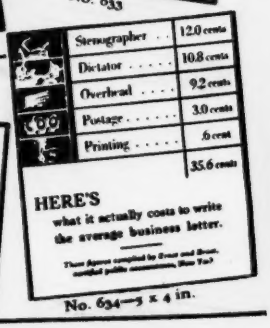


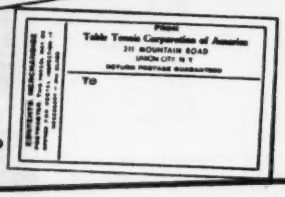
No. 628—4 x 5 in.

PRICES
Per Thousand
5,000 - $2.40
10,000 - 2.00

UNITED STATES RESEARCH CORPORATION
40-35 21ST ST., LONG ISLAND CITY, NEW YORK




Stenographer . . 12.0 cents
Dictator . . . . . 10.8 cents
Overhead . . . . 9.2 cents
Postage . . . . . 3.0 cents
Printing . . . . . .6 cent
35.6 cents
HERE'S
what it actually costs to write
the average business letter.
No. 634—5 x 4 in.



Ever Ready LABELS 20 SQUARE INCHES

• PAPER—white gummed or ungummed. • INK—Choice of red, blue, black, green or brown. • Perforated in rolls or cut single if preferred. • Second color—add 15%. • Colored Papers—add 15%. • For available colors see page 47. **EVER READY LABEL HOLDER FREE WITH FIRST ORDER.**

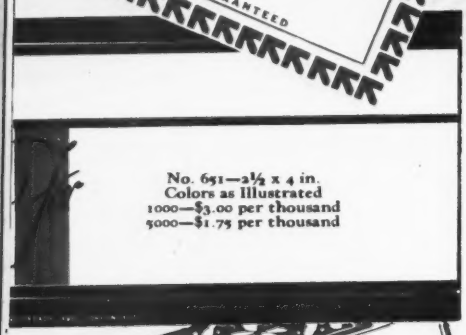
The miniature labels are merely suggestions. Sizes noted may be used to accommodate your copy.
The large labels are the **recommended** maximum sizes for large express or freight shipments.
YOUR LABEL PROBLEMS ARE OURS TO SOLVE.

Ever Ready Stock Shipping Labels

2" x 3" to 3" x 4½"

No. 640—2¼ x 4½ in.
Printed Red or Blue
1000—$2.50 per thousand
5000—$1.90 per thousand

No. 643—2½ x 4½ in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.70 per thousand

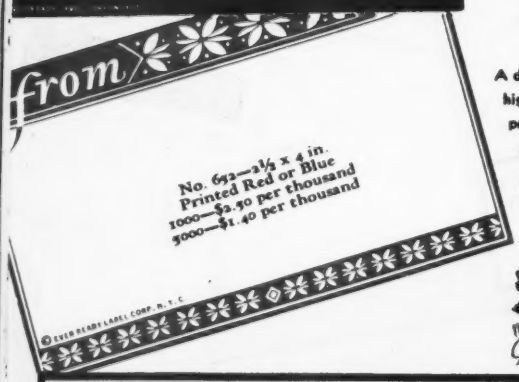


No. 651—2½ x 4 in.
Colors as Illustrated
1000—$3.00 per thousand
5000—$1.75 per thousand

No. 654—2½ x 4 in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$1.90 per thousand

Price includes Imprinting Your Name and Address

A distinctive group of stock designs . . . high in attention value, yet low in price. Labels in 1 M lots are cut single. In 5 M lots furnished in roll form. FREE HOLDER with roll label order.



No. 652—2½ x 4 in.
Printed Red or Blue
1000—$2.30 per thousand
5000—$1.40 per thousand

No. 655—2½ x 4½ in.
Printed Red or Blue
1000—$2.75 per thousand
5000—$1.60 per thousand

Ever Ready Labels
"Go Places and Do Things"

No. 656—2 x 3 in.
Printed Red, Blue or Black
5000—$1.15 per thousand
10000—$1.00 per thousand

MASON MAILERS and *Ever Ready Labels* ...A DISTINCTIVE SHIPPING ENSEMBLE

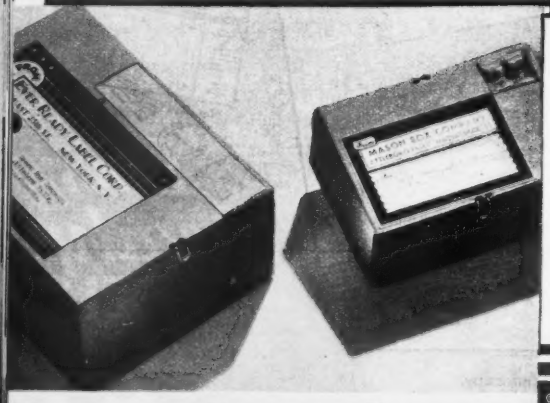
Shippers throughout the country agree that Mason Modern Mailers take most of the work and all of the worry out of shipments by mail. They reduce postage and carry articles in perfect safety.

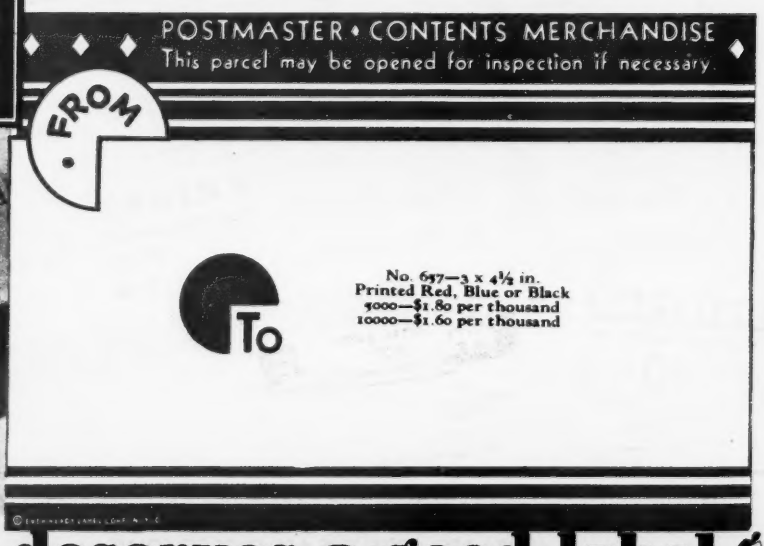
Only Ever Ready labels could complete the perfect combination of container and label . . . making the perfect package ensemble.

Label 656 is also available in size 3 x 4½, and label 657 in smaller 2 x 3 size.

Price includes name and address imprint.

Furnished in convenient roll form or cut single. State your preference. FREE ROLL LABEL HOLDER.





No. 657—3 x 4½ in.
Printed Red, Blue or Black
5000—$1.80 per thousand
10000—$1.60 per thousand

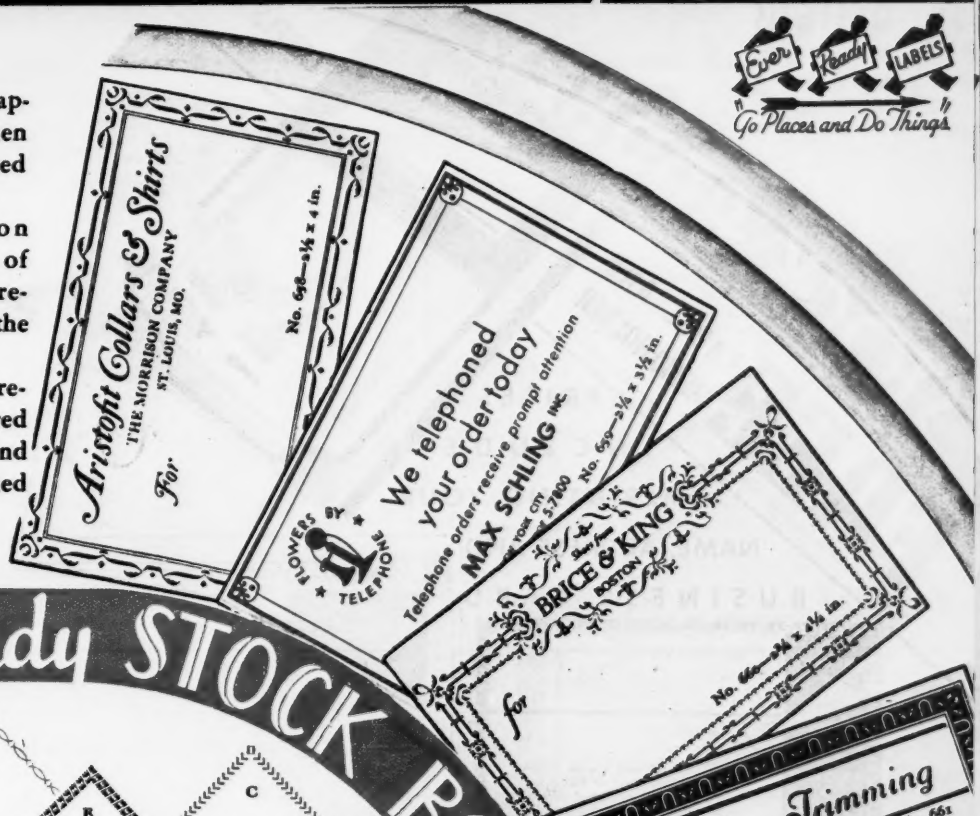
A good package deserves a good label

Effective Designs Become Doubly Effective When Printed on Tinted Paper Stock

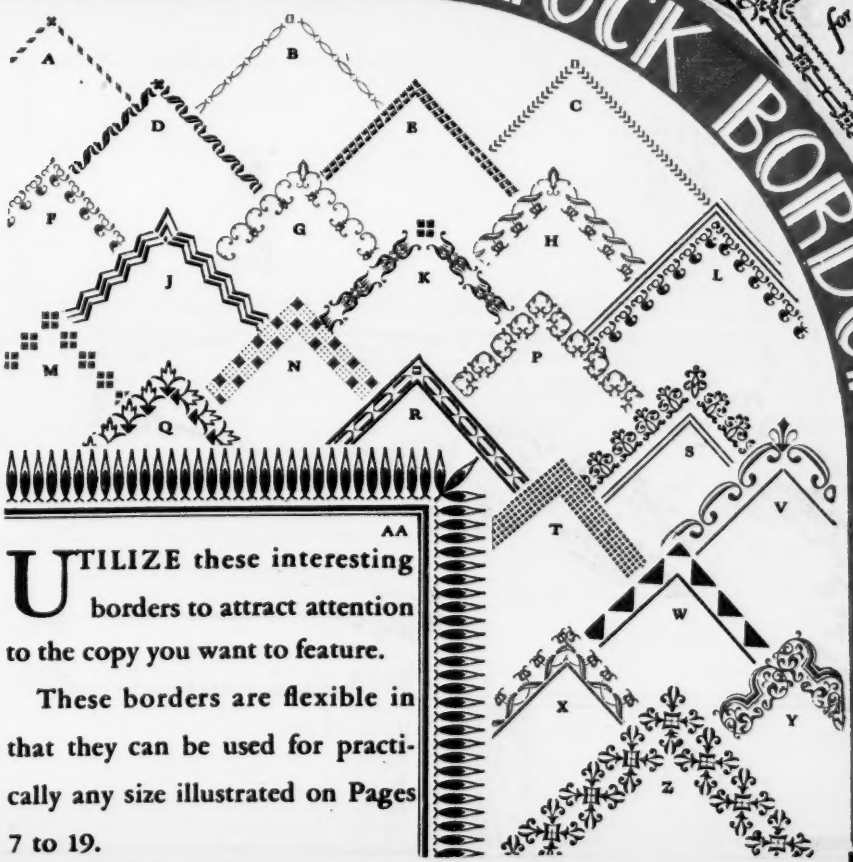
ANY label will change its appearance completely when printed on colored gummed paper.

It is impossible to show on these pages the wide range of colors available; nor do the reproductions do justice to the attractive tints.

For that reason we have prepared a sampler of colored stocks, showing colors and prices of Ever Ready's gummed labels.



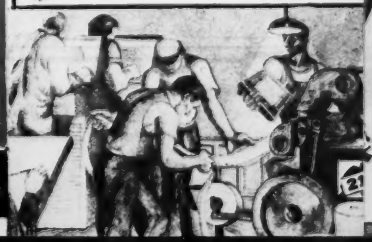
Ever Ready STOCK BORDER DESIGNS



UTILIZE these interesting borders to attract attention to the copy you want to feature.

These borders are flexible in that they can be used for practically any size illustrated on Pages 7 to 19.

THE BORDER IS TO THE LABEL AS THE FRAME IS TO THE PICTURE



Painting by K. B. Loomis

DECORATIVE DISTINCTIVE DESIGNS

Ever Ready STOCK ADDRESS LABELS

. . WITH YOUR ORDER FOR LABELS SHOWN ON THIS PAGE

FREE LABEL AND MEMO HOLDER

PRICES INCLUDE IMPRINTING YOUR NAME, ADDRESS AND BUSINESS CARD

Fifth Avenue Designs,

we call them . . . all are as outstanding, as modern, as progressive as Fifth Avenue itself.

Ever Ready's new memo holder is a gem of handiness. Made of Bakelite, this Handy Holder is ideal for holding loose labels and memo blanks as large as 3" x 5".

Attractive and well suited for the desk—takes up little space, yet always ready for rapid and continuous service.

CONTENTS MERCHANDISE
POSTMASTER
THIS PARCEL MAY BE OPENED FOR POSTAL INSPECTION IF NECESSARY
RETURN POSTAGE GUARANTEED
For
No. 663—3 x 5 in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.90 per thousand

CONTENTS MERCHANDISE
POSTMASTER
This parcel may be opened for postal inspection if necessary.
RETURN POSTAGE GUARANTEED

For
No. 664—3 x 5 in.
Printed Red or Blue
1000—$3.75 per thousand
5000—$2.10 per thousand

From
For
No. 664 Available also in this style.

© EVER READY LABEL CORP. N.Y.C.

From
To
No. 665—3 x 5 in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.90 per thousand

From
To
No. 667—3 x 5 in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.90 per thousand

For
No. 666—3 x 5 in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.90 per thousand

From
For
No. 668—3 x 5 in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$2.50 per thousand
RETURN POSTAGE GUARANTEED

RETURN POSTAGE GUARANTEED
For
No. 669—3 x 5 in
Colors as Illustrated
1000—$4.00 per thousand
5000—$2.50 per thousand

All labels illustrated on this page may also be had in a convenient roll form, if desired and specified.

READILY ADAPTED TO YOUR BUSINESS

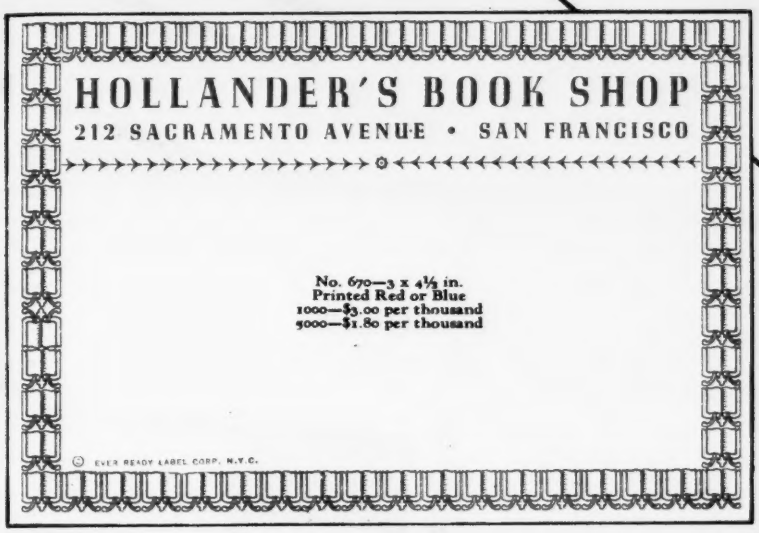
STYLED BY EXPERTS (LEE & PHILLIPS, Inc., of New York)

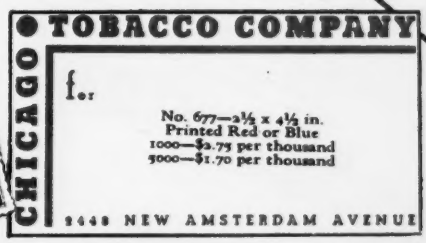
Ever Ready INTERPRETIVE DESIGNS

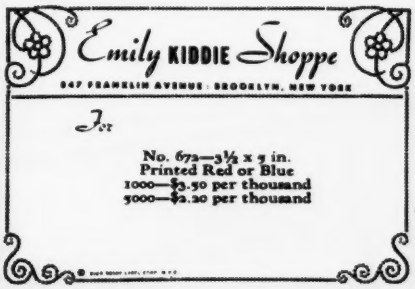
STOCK ADDRESS LABELS

Each label design on this page is made to interpret a very definite feeling that characterizes a particular line of business activity. These labels will create an immediate impression of quality in the eyes of your customers. Labels in 1M lots are cut single. In 5M lots—furnished in roll form. FREE HOLDER with roll label order.

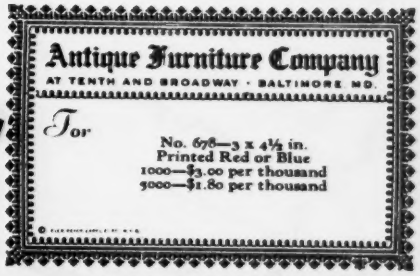
These designs are available to you at no added cost . . . there is no extra charge for imprinting your name and address.

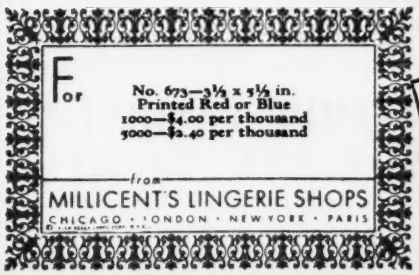

HOLLANDER'S BOOK SHOP
212 SACRAMENTO AVENUE • SAN FRANCISCO
No. 670—3 x 4½ in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.80 per thousand
© EVER READY LABEL CORP., N.Y.C.

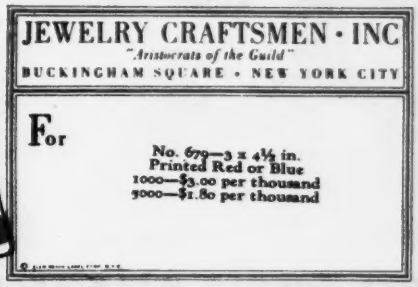




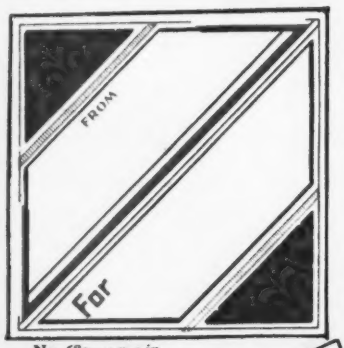
LEE & PHILLIPS, INC. · ENGRAVERS
225 EAST FORTY-FIFTH STREET · NEW YORK
To
No. 675—3 x 5 in.
Colors as Illustrated
1000—$4.25 per thousand
5000—$2.20 per thousand



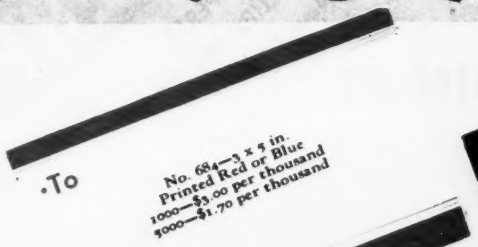




AN ENDLESS VARIETY OF DESIGNS STOCK LABE



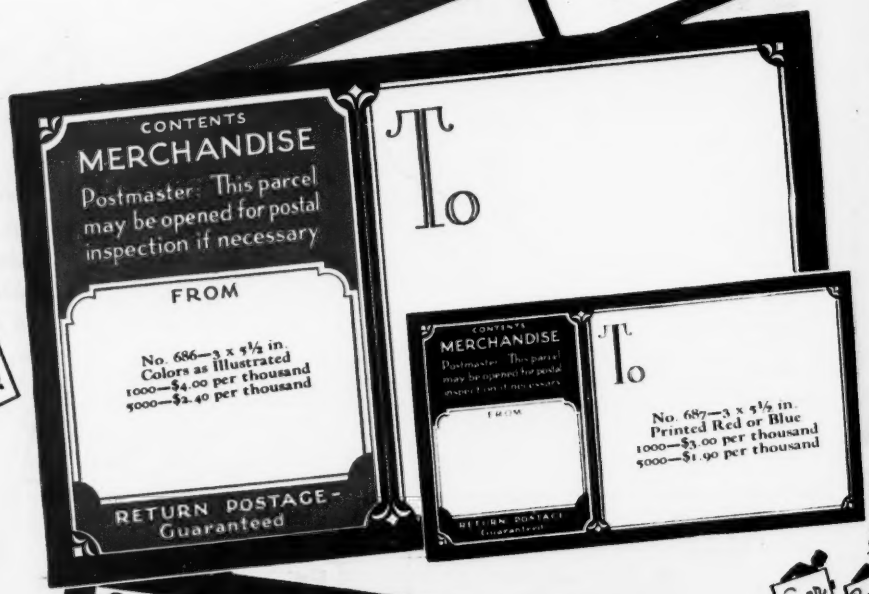
No. 680—4 x 4 in.
Colors as Illustrated
1000—$4.75 per thousand
5000—$2.50 per thousand



No. 684—3 x 5 in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.70 per thousand

No. 684—3½ x 4 in.
Printed Red or Blue
1000—$2.50 per thousand
5000—$1.50 per thousand

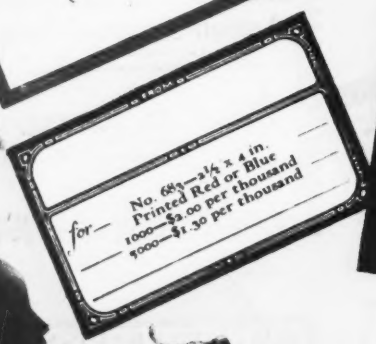
No. 681—3½ x 4¾ in.
Printed Red or Blue
1000—$3.50 per thousand
5000—$2.00 per thousand



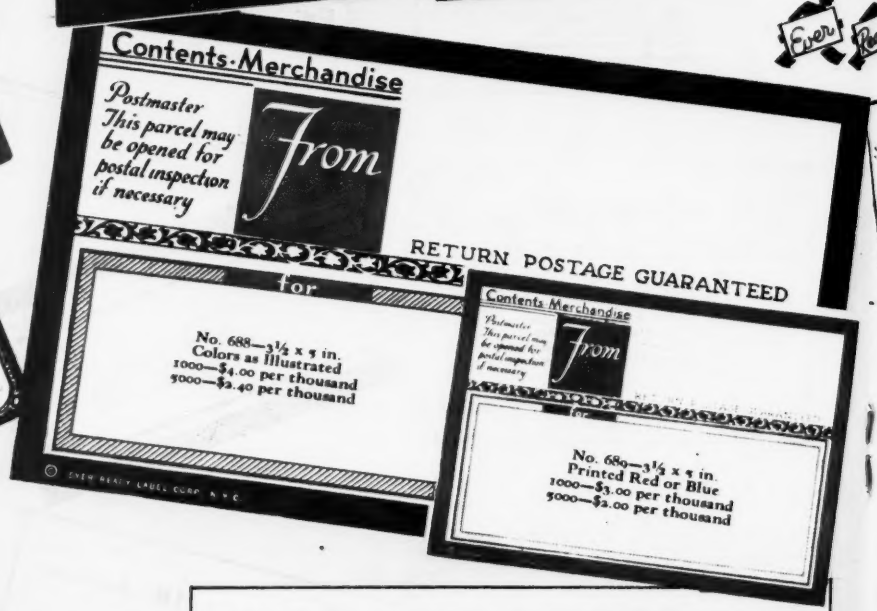
No. 686—3 x 5½ in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$2.40 per thousand

No. 687—3 x 5½ in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.90 per thousand

No. 682—3¼ x 4¾ in.
Printed Red or Blue
1000—$2.75 per thousand
5000—$1.75 per thousand



No. 683—3¼ x 4 in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$1.30 per thousand



No. 688—3½ x 5 in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$2.40 per thousand

No. 689—3½ x 5 in.
Printed Red or Blue
1000—$3.00 per thousand
5000—$2.00 per thousand

FREE HOLDER WITH EVERY ORDER FOR ROLL LABELS

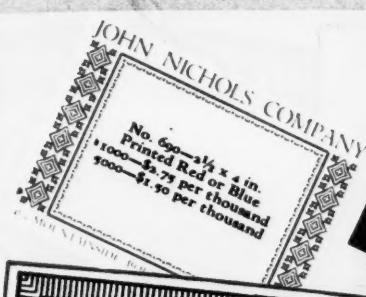
PRICES INCLUDE IMPRINTING YOUR NAME AND ADDRESS

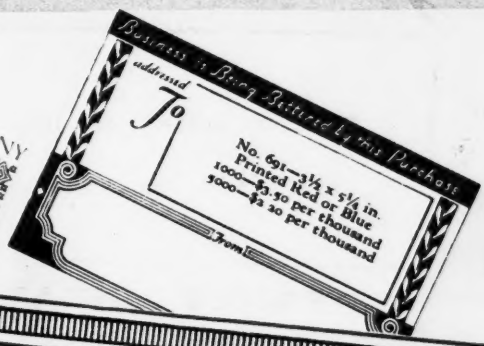
Get away from the conventional type of shipping labels—TWENTY THREE designs offer this opportunity.

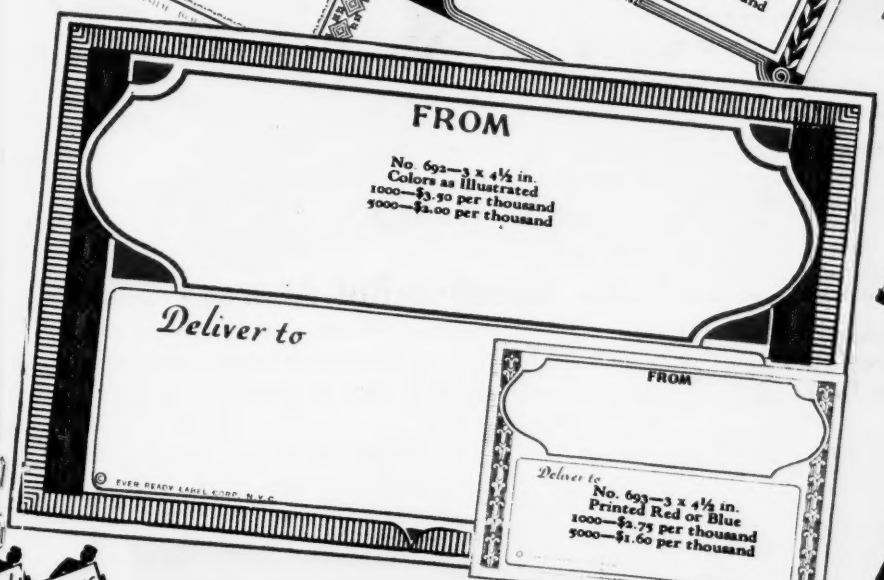
Furnished in convenient roll form or cut single; with or without guide lines —state your preference.

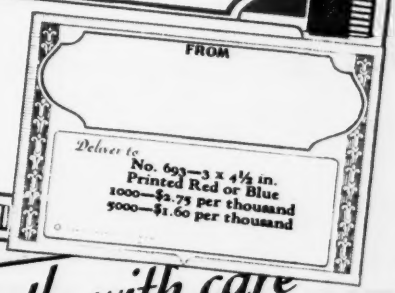
COPYRIGHTED 1935 BY EVER READY LABEL CORPORATION, N.Y.C.

ABEL DESIGNS A COMPLETE RANGE OF SIZES





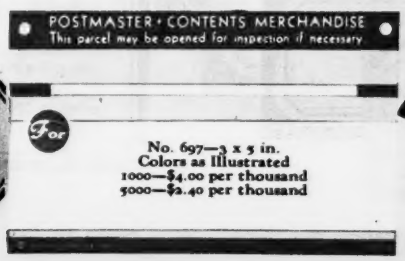




YOUR NAME AND ADDRESS

No. 696—2½ x 4 in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$2.40 per thousand

YOUR AD MESSAGE


POSTMASTER • CONTENTS MERCHANDISE
This parcel may be opened for inspection if necessary
For
No. 697—3 x 5 in.
Colors as Illustrated
1000—$4.00 per thousand
5000—$2.40 per thousand

Speed up your mailing with Ever Ready Gummed Labels

24 on a sheet

Efficient Letter Co., Inc.
141 East 25th St.
New York, N. Y.

actual size

indispensable for follow-up systems and flexible for varied uses where business depends on direct mail and mail lists.

FOR those using direct mail, these labels are time and money savers—permitting rapid addressing and making as many as three or four copies **at a time**—24 addressed **every time a sheet is inserted into machine.** More speed—greater ease in handling! • Handy too for making lists to be attached to file cards or records—for addressing large catalog envelopes that cannot be fed through the typewriter.

PRICES

3,000 labels	(125 sheets)	$.60	per 1,000
6,000 "	(250 ")	.50	" "
12,000 "	(500 ")	.45	" "
24,000 "	(1000 ")	.40	" "
48,000 "	(2000 ")	.30	" "

Labels are gummed on one side. • Size of label is 2¾" x 1⅜". • Size of sheet is 8½" x 11". • 24 perforated labels on a sheet. FREE SAMPLE SHEETS.

Dr. Wm. Seaman Bainbridge
34 Gramercy Park
New York, N.Y.

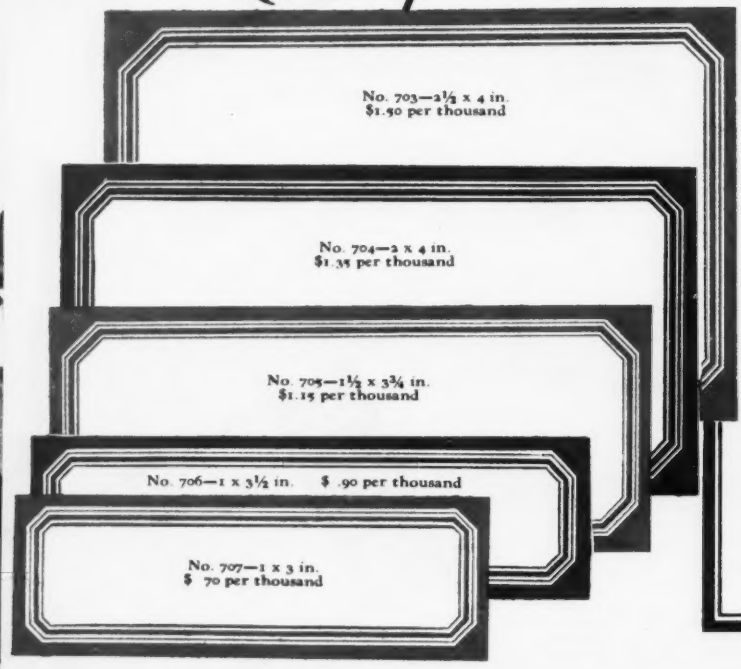
Speed-o-Rol Address Labels

1 x 3 blank gummed labels—run through typewriter in a continuous strip—excellent for rapid addressing and rapid affixing to packages, envelopes, etc. Used also on file folders.

5,000 - - **$ .50** per 1,000
10,000 - - **.40** " "
25,000 - - **.30** " "

Quantity Prices for Quantity Mailers

Ever Ready STOCK LABELS


No. 703—2½ x 4 in.
$1.50 per thousand
No. 704—2 x 4 in.
$1.35 per thousand
No. 705—1½ x 3¾ in.
$1.15 per thousand
No. 706—1 x 3½ in. $ .90 per thousand
No. 707—1 x 3 in.
$ .70 per thousand

BLANK and IMPRINTED

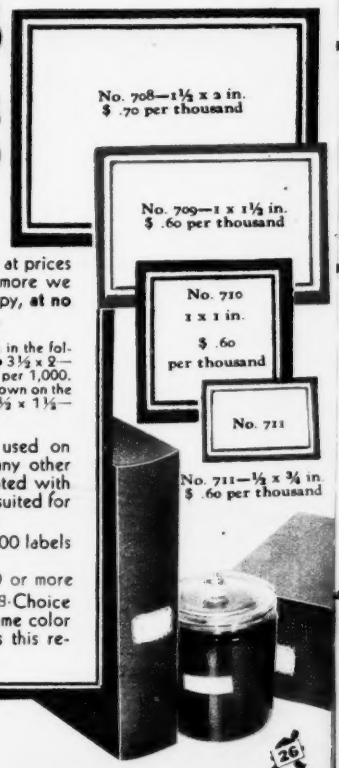
Labels illustrated here (choice of red or blue border) furnished in lots of 1,000 or more at prices indicated. In lots of 5,000 or more we will include your imprint or copy, **at no added cost** (all red or all blue).

Labels shown on left are also available in the following sizes: 4 x 1—**$.90** per 1,000. • 3½ x 2—**$1.35** per 1,000. • 4½ x 2½—**$1.70** per 1,000. • Other sizes carried in stock in style shown on the right are: 2 x 2—**$.90** per 1,000. • 2½ x 1½—**$.90** per 1,000.

These stock labels may be used on wood, glass, cardboard, and any other type of container. May be printed with any copy you wish. Excellently suited for private labels and office forms.

Delivered in rolls or flat—1,000 labels to roll.

Remember—in lots of 5,000 or more you pay **nothing extra** for printing. Choice of red or blue borders, with same color printing. NO ONE else offers this remarkable value.



Customers Think Your Way–And Pay–When You Use Ever Ready Collection Stickers

Ever Ready COLLECTION STICKERS

No. 712

No. 713

No. 714

This series printed in Red and Blue on gummed SILVER paper

The colorful results are strikingly effective . . . Samples will be cheerfully sent free

No. 715

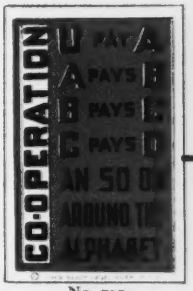
No. 718

No. 720

No. 722

No. 724

No. 716



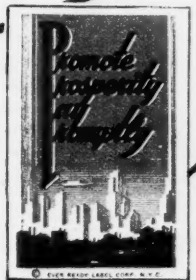
No. 725

No. 719

No. 721

No. 723

No. 726



No. 717

Actual Size 1¾ x 2½

TESTED ACTION PRODUCERS

REPEATEDLY USED AND ENDORSED BY CREDIT MEN

Outstanding Credit Men testify to the fact that the 70 smart, attractive, colorful and epigrammatic stickers shown on the following pages are effective for the job they are planned to do. The carefully planned letter of the Credit Man and the conservative correspondent, relative to "Big Business" is thoroughly respected by us, yet, our experience by demand from thousands of customers, indicates that in the largest percentage of cases, a gentle nudge or slight hint, will prompt the creditor to action, and retain that most valuable business asset—Good Will • This assortment is prompted because your personal approach to every particular customer is a matter of some thought and the proper application of the correct sticker.

SOLD IN UNITS OF 100 (100 to the pad of one design)	
1,000 assorted	$4.00
5,000 " per 1,000	3.50
10,000 " " "	3.00

Ever Ready
GOLDEN RULE STICKERS

"Do unto others as you would have them do unto you." A profound phrase with real philosophy back of it.

Ever Ready has turned the solemnity into humor—but the iron-clad philosophy remains, in this strictly original series.

They are yours for snappy, yet dignified collections. Stand out impressively on any style or color letterhead. These are genuine action-compelling stickers that do not beg or threaten but do educate your customers to the advantages of prompt payment.

Golden Rule stickers printed on a gummed stock that looks like 14 karat gold. They've been tested on thousands of accounts and proved effective on both large and small amounts. Sold in quantities of 1000 or more, 100 stickers to the pad.

Nos. 751-761 Printed in Brilliant Blue Black on Gold Stock, **$3.00 per thousand.**
Actual Size 1½" x 2¼".

Nos. 762-767 Printed in two colors, Brilliant Blue Black and Red on Gold Stock, **$4.50 per thousand.**
Actual Size 2¼" x 3¼".

TRY THEM ON YOUR NEXT STATEMENTS

Deduct 15% from total price if you buy 5000 (one kind or assorted).
Deduct 25% from total price if you buy 10,000 (one kind or assorted).

No. 727

No. 728

No. 729

No. 730

No. 731

No. 732

No. 733

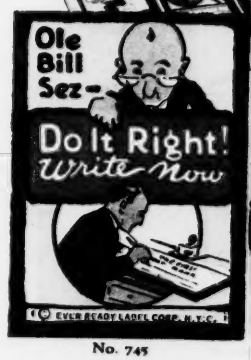
No. 734

No. 735

No. 736

No. 737

No. 738



No. 745

No. 751

No. 752

No. 753

BLUE?
NOT US
BECAUSE
the same Faith that prompted extending Credit assures us of your immediate attention. Won't you? Please.
No. 754

No. 755

No. 756

No. 757

No. 758

No. 759

GOLDEN RULE COLLECTION

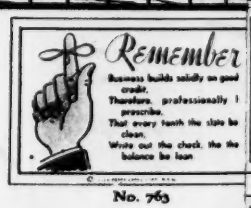
Complete description and prices of Golden Rule collection stickers will be found in the panel above labels 752 and 753.

No. 760

Labels Nos. 751 to 761 are size 2¼ x 1½.
Labels Nos. 762 to 767 are size 2¼ x 3¼.

No. 761

GOOD ACCOUNT
and he was such a fine fellow
Over due accounts can get no better.
Can't you think of the other fellow?
Don't send flowers when they're dead.
Pay up promptly—send check instead!
No. 762


Remember
Business builds solidly on good credit.
Therefore, professionally I prescribe.
That every tenth the slate be clean.
Write out the check, the the balance be loan
No. 763

..and Please send in a check
Day by Day in every way,
We write you letters—
Kneel and Pray,
Hoping they will take effect
Please Oh Please—
Send us your check.
No. 764 © EVER READY LABEL CORP. N.Y.C.

er Ready
LECTION
TICKERS

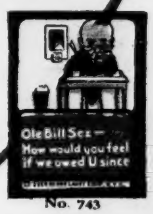
All "Ole Bill" STICKERS THIS SIZE

No. 739

No. 740

No. 741

No. 742



No. 743

No. 744

No. 745

No. 746

No. 747

No. 748

No. 749

No. 750

"OLE BILL" COLLECTS OLD BILLS!

Meet "Ole Bill," the genial bookkeeper, who, with subtle humor and homely philosophy urges the signing of the check by striking the funny bone, and with smiles and laughter awakens those action nerves. "Ole Bill" collection stickers are being used effectively by well known mercantile houses, manufacturers, retailers and professional men. They are inexpensive. There are twenty-four slogans. You select the one that best fits your case and Presto! —before you know it, collections start coming in. Twelve hundred "Ole Bill" stickers come in a handy bookkeeper's box (note illustration at left)—made to hold twelve pads. Each pad contains 100 gummed "Ole Bill" stickers. All are printed in three vivid colors—yellow, red and blue. There are twenty-four to select from. You make your own assortment.

WE MAKE THIS OFFER

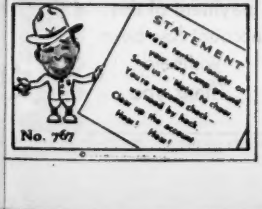
Let us send you YOUR ASSORTMENT of "Ole Bill" for $3.50. Pick out the styles you like best and try them immediately. If you get no results and no favorable comments, return the balance and with no questions asked we'll return your remittance.

Price Per Box 1200 Labels
12 pads—100 stickers each
$3.50

TION STICKERS

The Magic Pin
We learned in school that
A properly placed thumb tack
Creates Action.
A Magician said that this pin would
prompt a normal mortal to
Write a check and attach hereto
No. 765

We're anxiously awaiting your
Courteous consideration
in this envelope we've put
our Head and Heart—
Ambassadors to plead with
you for the past due account
No. 766



No. 767

Sampler Package

100 COLLECTION STICKERS for 25¢

To Skeptics—

you who hesitate to buy before you try—we offer Ever Ready's Sampler (as illustrated). 100 colorful and interesting stickers to contact delinquent accounts—The bad boys on your list. Send 25c—try 'em—use 'em—then buy 'em in quantity.

The Ever Ready GOL

Sold in units of 1000 of a kind. Assortment permitted in 5000 quantity.

EXPERIENCE SHOWS THAT THEY PRODUCE RESULTS

"Successful business demands prompt collections and prompt payment. We request prompt payment in the same courteous manner we solicit your trade. Both are necessary for our success".

No. 768 1000—$2.00 per M 5000—$1.25 per M

We are still looking for your check to cover our statement of_____ for $_____ We feel sure that we can count on you for a remittance by return mail.

No. 769 1000—$2.00 per M 5000—$1.25 per M

THE LAST MAIL Has Arrived

We were disappointed because of your failure to send a remittance to cover our statement of_____ for $_____

We must insist on a check by return mail.

No. 770 1000—$2.00 per M 5000—$1.25 per M

The repeated demands for the collection of small accounts entail an expense absorbing all profit. We trust that you will give this request for a settlement of your account immediate attention.

No. 771 1000—$1.00 per M 5000—$ .75 per M

THIS ACCOUNT NOW PAST DUE *has probably been overlooked* WE WOULD APPRECIATE YOUR EARLY REMITTANCE

No. 772 1000—$1.00 per M 5000—$ .75 per M

We want you to know *that* YOUR PATRONAGE HERE IS APPRECIATED

No. 773 1000—$1.00 per M 5000—$ .75 per M

★ This account has apparently been overlooked. May we remind you that it IS due and that you should remit promptly

No. 774 1000—$1.00 per M 5000—$ .75 per M

WE HAVE BEEN WAITING TO HEAR FROM YOU ON THIS ACCOUNT. IF NOT CONVENIENT TO SETTLE IN FULL AT THIS TIME A PARTIAL PAYMENT WILL BE APPRECIATED.

No. 775 1000—$1.00 per M 5000—$ .75 per M

OUR CREDIT IS GOOD BECAUSE YOU PAY YOUR ACCOUNT HERE PROMPTLY THANK YOU

No. 776 1000—$1.00 per M 5000—$ .75 per M

IF THERE IS ANY REASON WHY THIS ACCOUNT SHOULD NOT BE PAID WITHOUT FURTHER DELAY, KINDLY INFORM US.

No. 777 1000—$1.00 per M 5000—$ .75 per M

As termination of our fiscal year approaches, we desire to close our books with all accounts balanced.

Payment will be appreciated.

No. 778 1000—$ .75 per thousand 5000—$ .60 per thousand

We are required to report all past due accounts to our local credit bureau. An early payment protects your interest.

No. 779 1000—$ .75 per thousand 5000—$ .60 per thousand

PAST DUE! Please favor us with a remittance by return mail Thanks

No. 780 1000—$2.00 per M 5000—$1.25 per M

All *charges are made on a 30-day basis Please!*

No. 781 1000—$2.00 per M 5000—$1.25 per M

Won't you please tell us if there is reason why payment of this account has been withheld. Thank you

No. 782 1000—$2.00 per 5000—$1.25 per M

OLD DIGGERS of Today

Just now the Bookkeeper said, "Don't they ever pay their bills?" My chin dropped.

After all, we served and satisfied.

Aren't we entitled to kind consideration?

Please justify my faith in you by mailing a check today.

Cordially yours,

U-Sign-Here

No. 783

Cardiac Hypertrophy—
a medical expression for a big heart.

This reminder is intended as an appeal to a big heart and an overflowing check book.

We've been patient a long time.

Thanks.

Cordially yours,

No. 784

It's strange how often small things are overlooked.

Star gazers concentrate to enlarge small things, and acorns grow to be large oaks, but—

This stagnant account isn't making our bank account larger and we're asking you to look into it with your strongest glasses.

Oh, how grateful we'd be.

Cordially yours,

No. 785

1000 $2.00
5000 $1.25 per M

We're on the warpath.—

Necessity prompts many things.

If the pen be mightier than the sword, we'd be grateful if you'd sign a check.

Transfer that part of your wealth which has rightfully belonged to us for many weeks.

We don't like to be quarrelsome.

Cordially yours,

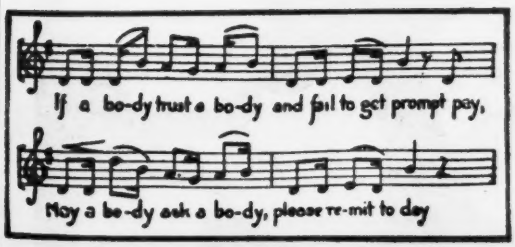
No. 786

THE COURTESY OF YOUR PROMPT ATTENTION WILL BE GREATLY APPRECIATED.

No. 787 1000—$1.00 per M 5000—$ .75 per M

There never was a product made
(The truth we must confess)
But what some Bird could make it worse
And sell his stuff for less.

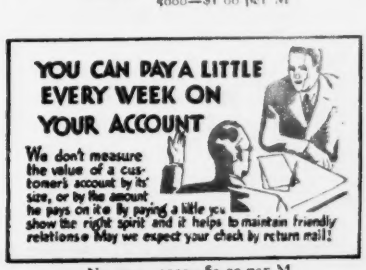
No. 788 1000—$1.00 per M 5000—$ .75 per M



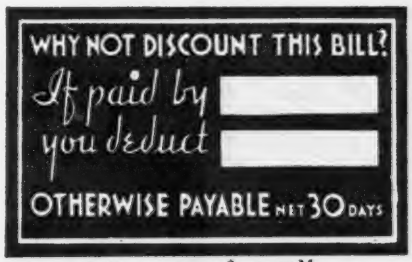
No. 789 1000—$1.00 per M 5000—$ .75 per M

YOU CAN MAKE BUSINESS BETTER BY PAYING A LITTLE ON THIS ACCOUNT
A growing list of delinquent accounts is a drag on any business. To discount our own bills we MUST collect outstanding accounts on our books promptly. Why not pay something on you account NOW.

No. 790 1000—$2.00 per M
5000—$1.00 per M

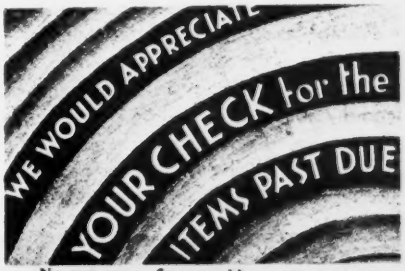

YOU CAN PAY A LITTLE EVERY WEEK ON YOUR ACCOUNT
We don't measure the value of a customer's account by its size, or by the amount he pays on it. By paying a little you show the right spirit and it helps to maintain friendly relations. May we expect your check by return mail?

No. 791 1000—$2.00 per M
5000—$1.00 per M



No. 792 1000—$2.00 per M
5000—$1.00 per M

Tipped on statements, these spots of color center attention and cry out your request.



No. 793 1000—$3.50 per M
5000—$2.00 per M Black on Silver

Thanks
We request prompt payment in the same courteous manner that we solicit your patronage. Both are necessary for our continued success.

No. 794 1000—$3.50 per M
5000—$2.00 per M Black on Silver

MOONSHINE TWINS

"Before"

No. 795
1000—$ .75

"After"

No. 796
1000—$ .75

Black on Yellow

Ever Ready Quality

Embossed Good-Will Seals

3000 Assorted—$4.00

No. 797
1000—$1.50

No. 798
1000—$1.50

No. 799
1000—$1.50 Green on White

Ever Ready Dummy Stamp Stickers

No. 800

No. 801

No. 802

No. 803

No. 804

No. 805

No. 806

No. 807

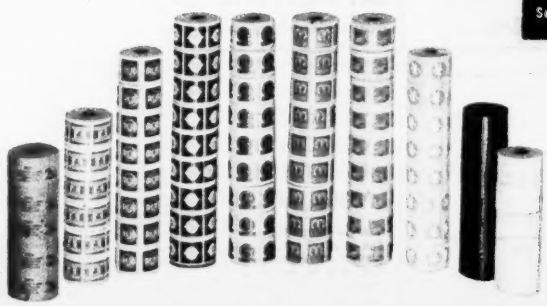
"Trade Marks Are Trade Sparks"

No. 808

No. 809

—For identifying merchandise
—For sealing mailing pieces
—For attaching post cards to mailing pieces

EVER READY makes Dummy Stamp-Stickers—exactly the same size as U. S. Postage Stamps, for use in stamp affixing machines, such as the Standard Stamp Affixer, the Mail-O-Meter, and similar machines. Splendidly adapted for sealing direct mail literature, for identifying merchandise by trademark, for pricing and recommended where rapid application is important.

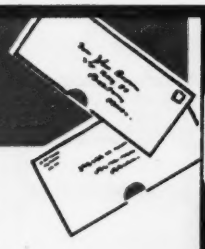


BLANK stamp-stickers now carried in stock in following colors: white, black, red, yellow, blue, green, pink, orange and brown.

5,000 at $ .50 per 1,000
10,000 " $ .40 " "
25,000 " $ .30 " "
50,000 " $ .25 " "

Ask for special quotation on printed stamp-stickers and quantity requirements.

DIECUT *UTILITY* STICKERS and SEALS



FOR marking and pricing—for sealing circulars, broadsides, folders—to attach reply cards—for swatches—for innumerable practical purposes. Hundreds of other shapes are carried on hand for instant delivery. If you don't see what you want here, ask for samples, and consult us on special needs.

PRICES WITHOUT PRINTING

(All prices are per thousand)

GROUP	SIZE	WHITE GUMMED			WATERPROOF COLORS*			GOLD & SILVER NON-TARNISHABLE		
		5,000	10,000	25,000	5,000	10,000	25,000	5,000	10,000	25,000
A	Diameter 1" or less	$ .25	$ .20	$ .18	$ .30	$ .25	$ .22	$ .50	$ .40	$ .35
B	Diameter 1½" or less	.35	.28	.24	.45	.35	.30	.70	.60	.54
C	Diameter 2" or less	.50	.40	.34	.60	.45	.40	1.05	.95	.85

*Colors available: Red, Orange, Yellow, Green, Blue, Brown, Black and pastel shades.

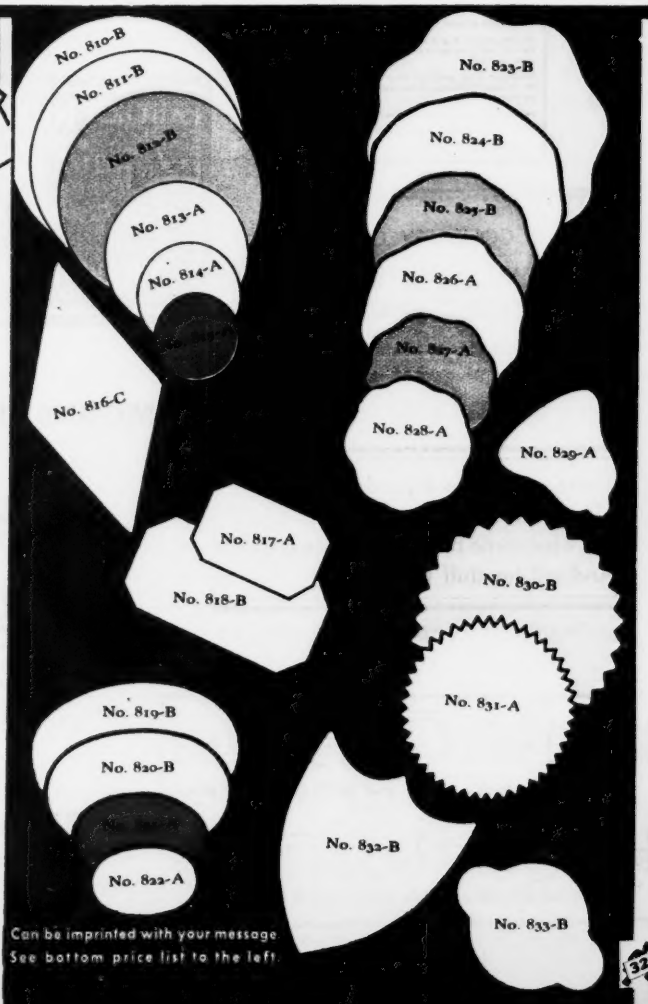
PRICES WITH PRINTING

(All prices are per thousand)

GROUP	SIZE	WHITE GUMMED			WATERPROOF COLORS*			GOLD OR SILVER NON-TARNISHABLE		
		5,000	10,000	25,000	5,000	10,000	25,000	5,000	10,000	25,000
A	Diameter 1" or less	$1.00	$ .75	$ .64	$1.25	$ .90	$ .75	$1.50	$1.20	$ .95
B	Diameter 1½" or less	1.15	.95	.78	1.35	1.10	.90	1.75	1.40	1.20
C	Diameter 2" or less	1.30	1.00	.85	1.50	1.30	1.05	2.25	1.75	1.40

*Colors available: Red, Orange, Yellow, Green, Blue, Brown and pastel shades.

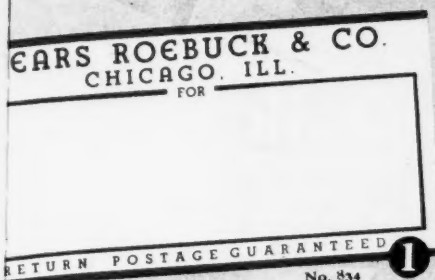
SPECIAL PRICES IN LARGER QUANTITIES



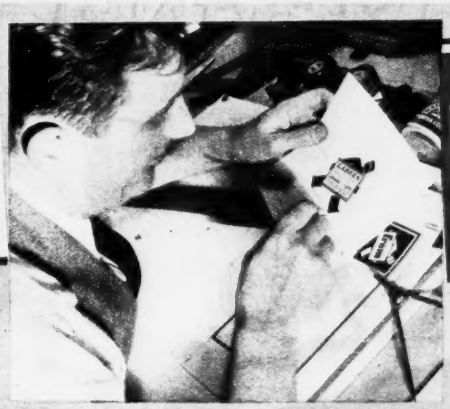
Can be imprinted with your message
See bottom price list to the left

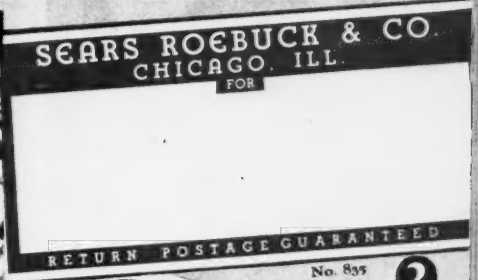
Ever Ready REVERSE PLATE and hand lettered labels

SHOWING THE EVOLUTION FROM THE SIMPLE TO THE DISTINCTIVE LABEL...



No. 834 — 1





No. 835 — 2

3 No. 836

Note three different presentations of the same label.

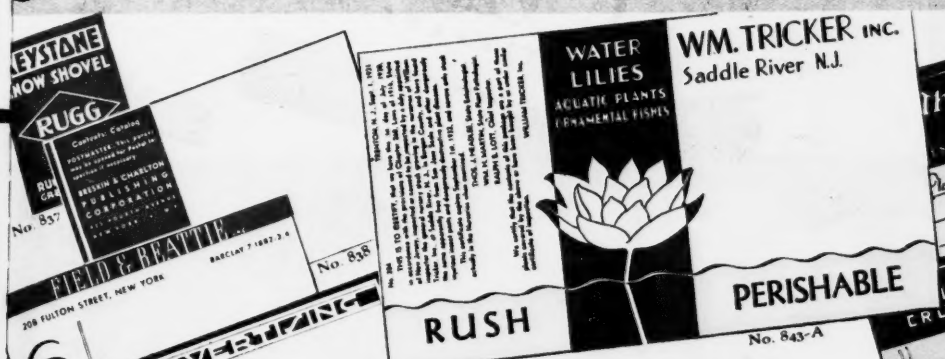
Note that the contents of all three labels shown above are identical, yet the treatments are entirely different.

1. This label printed from stock type set in straight lines; the borders made from stock rules.
2. This label is the same as No. 1—except reversed and requiring a cut.
3. A hand drawn label—main elements derived from artist's handiwork—requiring both art work and cut.

No. 1 Price same as other 6 sq. in. labels. 5 M at **$1.15**—10 M at **$1.00**

No. 2 cost of cut is **$3.00**—Printing of labels same as No. 1

No. 3 cost of drawing and cut **$6.50**—Printing of labels same as No. 1



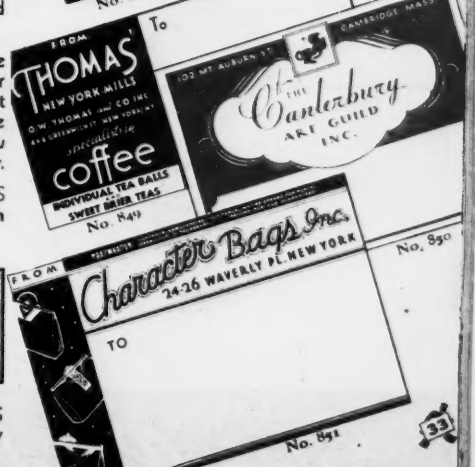
A "PLUS" VALUE

LABELS shown here indicate the possibilities for featuring trade marks, individual and distinctive designs, thereby securing "plus" advertising value in conjunction with the practical purpose of your label.

Our facilities enable us to create such artistic and distinctive designs. Their advertising value will prove effective long after the first cost has been paid and forgotten.

THE COST of Hand Lettered and Reverse Plate labels is figured on the square inch basis, as other Ever Ready Labels. The only difference is the first cost of art work and plates—and such drawings and plates become your property after order is completed. *We ask you to pay for these drawings and cuts on the first order only.*

COST NO MORE THAN ORDINARY LABELS after you pay initial low cost of drawing and cut, which are CHARGED AT COST.



No. 840—Drawing and plate cost about . .	**$5.50**
No. 841—Drawing and plate cost about . .	**$6.00**
No. 851—Drawing and plate cost about . .	**$9.50**
No. 838—Plate cost about	**$5.00**

NO DRAWINGS REQUIRED FOR REVERSE LABELS FROM TYPE—ONLY CUT IS NECESSARY

THEIR ADVERTISING VALUE REMAINS LONG AFTER THE COST IS FORGOTTEN

Ever Ready LABELS FOR PACKAGING &

THE large manufacturer of nationally advertised products calls in packaging and styling experts whose fees run into three or four figures.

Ever Ready doesn't pretend to offer this service, but the experience gained by handling 100 or more problems daily, naturally flows to the advantage of the small and medium sized manufacturers and packers.

In short, Ever Ready makes it possible for a relatively small business to buy a fine looking package label at a price that eliminates all the frills and extra charges—a price it can afford to pay.

"How can Ever Ready do **that?**" you'll ask.

We have accumulated 2000 dies available to you at no added expense. Thus we solve, **to your advantage,** the problem of shape. The appearance of the label is further enhanced through an appropriate design. And here, both art work and plates necessary to create the hand drawn and reverse plate effects, are charged to you at cost. The final touch is given by a dash of proper color against an intelligently selected shade of stock.

We suggest that you send us your present or proposed package with a few details or some literature about your selling plans. We feel confident in our ability to respond with a concrete suggestion that will be the solution of your problem.

*Ever Ready will gladly quote on your embossed seal requirements.

& STYLING *including* DIE CUT LABELS & SEALS

Ever Ready is equipped to produce 2,000,000 Idea-Stickers daily. We have unique machinery for production, printing many colors in one operation. We claim also mental facilities that will help develop the problems you entrust to us. Tell us the idea you want to put over—we'll furnish a design with a punch.

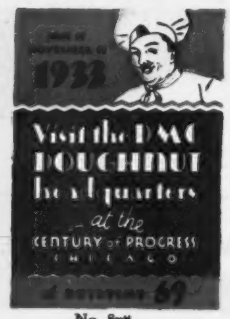
Ever Ready's

BUSINESS MEN AGREE ON LABELS

No. 877

BIGGER AND BETTER CONVENTIONS THRU THE USE OF STICKERS

After a fellow gets to a convention he has a pretty good time—makes lots of business contacts. But it's a tough job getting the average man to the convention. That's where stickers come in—and do they do a big job! When organizations like American Legion, American Management Association and similar groups use them, you just know they're clicking. They've *got* to click.



No. 878

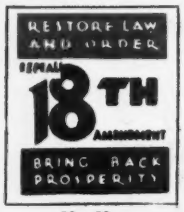
Members use convention, exposition, fair and jubilee stickers on outgoing correspondence and merchandise because they always attract attention.

COME TO NEW ENGLAND FOR THE
17th Annual
advertising & sales conference and exposition
DIRECT MAIL ADVERTISING ASSOCIATION
D. M. A. A.

No. 879

LABELS—BASIC AMERICAN PROPAGANDA MEDIUM

The actual business of repealing prohibition was the work of *one day*. That day of voting followed *years* of propaganda for repeal. Basic media of that propaganda drive were the Ever Ready label and windshield stickers! Did they do a bang-up job? You answer that one.



No. 880

No. 881

When first class postage rates were raised from 2c to 3c per ounce, many business folks felt that the rate tended to discriminate against local mail users. This meant propaganda to restore the local 2c rate. Extensive use of Ever Ready Labels by the Direct Mail Advertising Associations did the major share of the propaganda job (on letters, invoices, statements, merchandise, etc.)—and today we have the local 2c rate. Ever Ready Labels speak for themselves with *Action*.

No. 882

No. 883

No. 884

Two billion Ever Ready N.R.A. Seals used within the six months between August, 1933 and February, 1934 popularized the Blue Eagle as no emblem was popularized before! Became the world's greatest trademark.

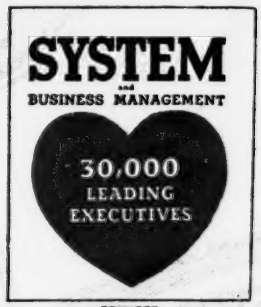
No. 885

No. 886

Believe us when we say that the little sticker gets into places where other propaganda media fail to penetrate—and if you have a publicity or propaganda job, small or large, that *must be done*—Ever Ready Labels can be relied upon to do it.

No. 887

ENTHUSIASTIC PUBLISHERS WANT LABELS!



No. 888

Magazine, book and sheet music publishers alike turn to Ever Ready Labels to *put over* their latest offerings—their newest issues. How they do it?—it's simple! Magazine, Book or sheet music covers are made to do a selling job with outstanding illustrations and designs. What could be more appropriate than miniatures of those covers slipped into places where people would be attracted to them. Ever Ready Labels slip into those places on correspondence, on packages, on other covers, etc.

No. 889

Magazine publishers who want to boost circulation—book publishers who want to push certain of their offerings, to tie them up with movies, for example—music publishers who want to plug certain numbers—all can rely on Ever Ready Stickers to do the job.

No. 891

No. 892

LABEL NEWS

There is NO business house, organization or pr
fession that cannot profitably use labels to achie
something new, or to perform some old ta
BETTER. This sweeping conclusion is supported b
the array of useful ideas shown here. Remembe
please, that these items are only a few of MAN

AS A BASIC ADVERTISING MEDIU

No. 893

STICKERS OFFER AD VALUE PLUS PROTECTION

Water constantly dropping on a stone will eventually wear away that stone.

Ever Ready Labels bearing your slogan, your trademark, your ad—will eventually wear away sales resistance and put your message across.

We cannot begin to tell you the many, many ways Ever Ready Labels have served others.

No. 894

Here are some thoughts:

—Association trademarks
—Miniature reproductions of magazine and newspaper
—Miniature catalog cover reproductions.

ads. —Miniature reproduction of packages.
—Change of address stickers.
—Departmental reminders from department stores.

We'll be glad to suggest hundreds of other ways of using stickers in your advertising.

WRITE FOR
"The Masterly Touch"
A de-luxe 44-page book on the etiquette of mixing and serving cocktails, wines, and long tall drinks.
Send 25¢ to
CANADA DRY GINGER ALE, INCORPORATED

No. 895

STEAMSHIP & TRAVEL AGENCIES USE EVER READY STICKERS

No. 896

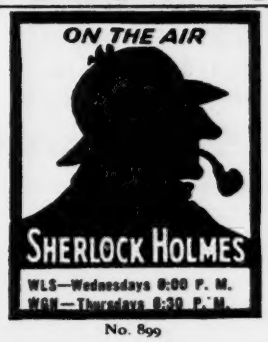
Going abroad? Going touring? Going to Cincinnati? Going anywhere?

The answer "yes" will bring with it the request for labels to stick on one's luggage and on the windshield of the car

No. 897

If you are promoting a hotel or travel service—if you are managing scenic wonders—if you are the agent for railway or steamship lines—if you are the secretary of a chamber of commerce, proud of your city, state or community, Ever Ready stickers will do the promoting job in the most *popular* way. Travellers like labels—and will use them!

No. 898



No. 899

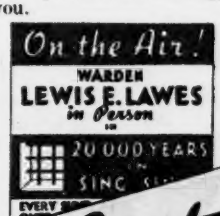
NATIONAL RADIO ADVERTISERS GET NEW LISTENERS BY USING LABELS

No. 900

Used by radio advertisers to tie up with their broadcasts. They can be used as dealer helps—for advertisers or their dealers to paste on to letterheads, bills, envelopes, merchandise—the spot of color that delivers your message with a punch.

Ever Ready stickers help merchandise your radio programs—create consumer interest—an inexpensive medium that produces genuine results.

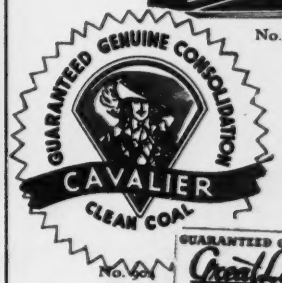
If you'll send us the literature and data about your program, we'll be in a better position to offer suggestions to you.



No. 901

No. 902

No. 90



No. 904

No. 905

No. 906

Ever Ready

HEADLINERS

FEATURING LABEL-MESSAGES THAT GO PLACES AND DO THINGS

Ever Ready STOCK

Made in different sizes and colors. To be used on sales charts and score cards, as decorations, displays and novelties, in school and kindergarten work, for card indexing, stock taking and map routing. Ever Ready can satisfy these and similar requirements.

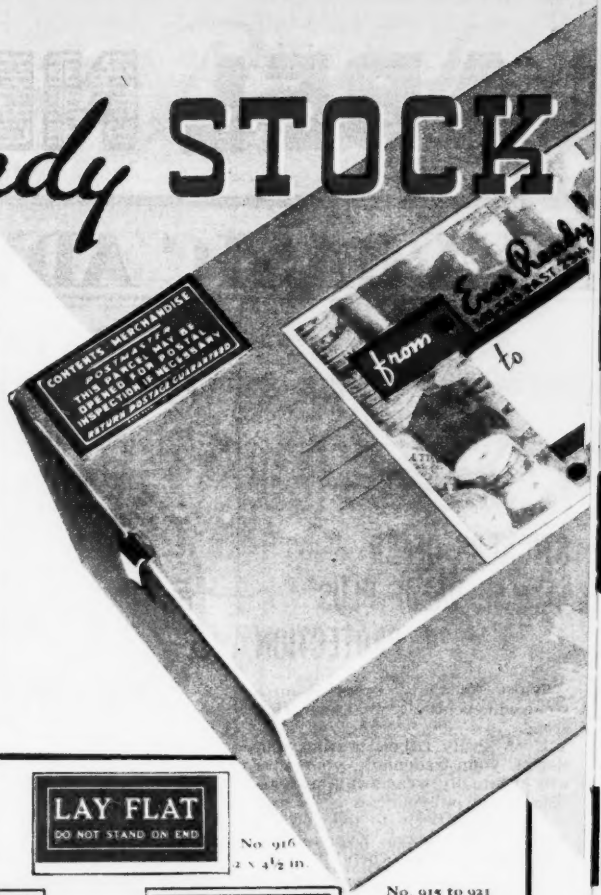
CONTENTS—MERCHANDISE
Postmaster:
THIS PARCEL MAY BE OPENED FOR POSTAL INSPECTION IF NECESSARY
RETURN POSTAGE GUARANTEED
EVER READY LABEL CORP. N. Y. C.

No. 913
1000—$1.00
5000—$ .60
10000—$ .45
per thousand

CONTENTS—MERCHANDISE
Postmaster:
THIS PARCEL MAY BE OPENED FOR POSTAL INSPECTION IF NECESSARY
RETURN POSTAGE GUARANTEED
EVER READY LABEL CORP. N. Y. C.

No. 914
1000—$1.00
5000—$ .60
10000—$ .45
per thousand

Post Office requires that every sealed parcel for third or fourth class handling bear this label. To make sure that YOUR sealed packages receive proper rate use label 913 or 914.



LAY FLAT
DO NOT STAND ON END
No. 916
2 x 4½ in.

GOOD MORNING
No. 917
2 x 4½ in.

SPECIAL SHIPPING INSTRUCTIONS
No. 921
2 x 4½ in.

No. 915 to 921
1000—$1.50
5000—$1.00 per M

DO NOT FOLD OR BEND
No. 918
2 x 4½ in.

SPECIAL RUSH
THIS ORDER MUST BE GIVEN PREFERENCE OVER ALL REGULAR SHIPPING ORDERS
No. 915
2 x 4½ in.

THIS IS A RUSH ORDER
No. 919
2½ x 2¾ in.

IF SEAL IS CONTENTS GUARANTEED UNBROKEN
No. 920
2¼ x 3½ in.

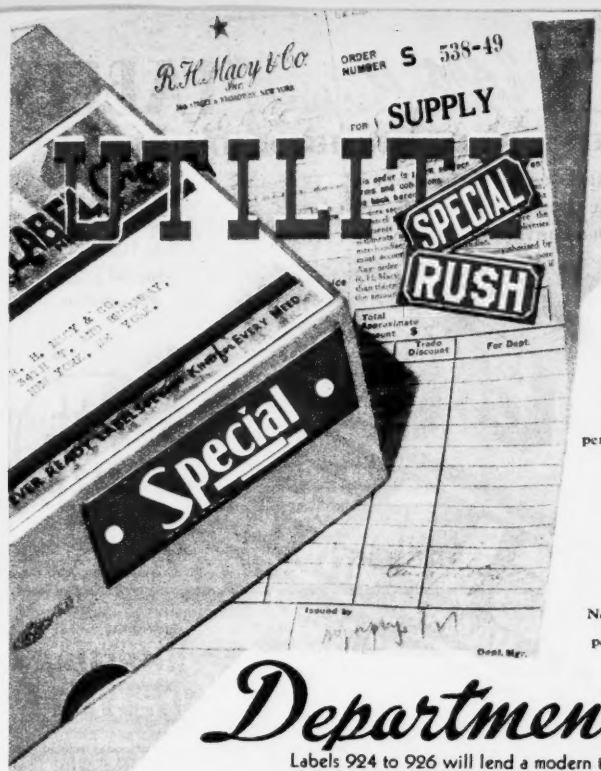
No. 861

Made of black or white gummed stock; in rolls of 500 each with perforations between each label. Used for covering bullet holes in targets, also for mounting signs, posters, cards and sealing mailing pieces. (See page 32.)

Send for FREE SAMPLER

Ever Ready believes that you would like to see or actually feel the labels in which you are particularly interested. Therefore we invite you to send for any of the following samplers.

1. ADVERTISING LABELS (Idea Stickers)
2. PACKAGE IMPROVEMENT
3. GOLD AND SILVER LABELS
4. ADDRESS LABELS
5. ART DESIGN LABELS
6. P. O. APPROVED LABELS
7. EMBOSSED SEALS
8. STOCK UTILITY LABELS
9. GUMMED LABELS
10. GUMMED PAPERS
11. DIRECT MAIL SEALS AND SPECIALTIES



UTILITY LABELS

No. 928
Black letters on white gummed paper, printed on perforated sheets. Used for file folders, cards, drawers, as index tabs for indexes, etc. Prices on request.

No. 929 figure gummed white paper, printed on perforated sheets. Used for numbering boxes, shelves, hooks, packages, mail bags, storage items, etc. Prices on request.

No. 922
60 cents per thousand

No. 923
60c per M

Department Store Labels

Labels 924 to 926 will lend a modern touch to packages that leave your shipping room.
*Label 927 indicates the possibility of personalizing your caution or any other message.

No. 924 1000—$ .85 5000—$ .65 per M

No. 925 1000—$ .85 5000—$ .65 per M

No. 926 1000—$ .85 5000—$ .65 per M

No. 927 Prices on request.

No. 930

No. 931

No. 932

No.

No. 934

Nos. 930 t
60c per

5,000 for $3.00

THINK OF A MESSAGE YOU NEED TO DELIVER

THIS SPACE RESERVED for YOUR MESSAGE

LABELS
Printed in red or blue ink on white gummed stock. In rolls. Your copy or arrangement. This is actual size.
5000 for $3.00
EVER READY LABEL CORPORATION
141 East 25th Street New York City

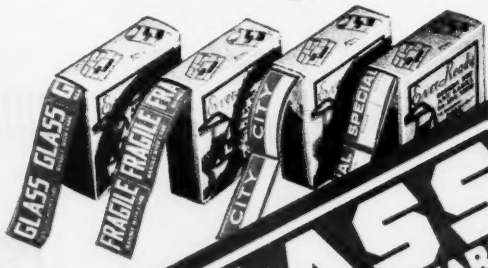
Refer to Pages 4-5 for Suggested Uses.

STOCK "All Purpose" LABELS

TIME SAVERS . . . MISTAKE PREVENTERS . . . ATTENTION GETTERS

Gummed and deeply perforated.
Packed one thousand to a roll.
Each roll in a convenient dispensing carton.

5000—60c per M.
10000—50c per M.
Single 1000—75c
Special prices in quantities



ALL THIS SIZE

actual size

GLASS • HANDLE WITH CARE •

No. 939

EXPRESS — No. 962

No. 952

See INVOICE INSIDE — No. 963

SPECIAL DELIVERY — No. 943

SHIP — No. 953

THIS SIDE UP — No. 964

LIQUID FRAGILE · THIS SIDE UP — No. 944

PREPAID — No. 954

OPEN THIS END — No. 965

RUSH — No. 945

PERISHABLE — No. 955

WATCH SHIPPING INSTRUCTIONS — No. 966

DON'T CRUSH — No. 946

HANDLE WITH CARE — No. 956

BILL IN — No. 967

FRAGILE — No. 947

SPECIAL HANDLING — No. 957

KEEP AWAY FROM HEAT — No. 968

C.O.D. — No. 948

FIRST CLASS MAIL — No. 958

INFLAMMABLE — No. 969

SPECIAL — No. 949

TO-DAY — No. 959

KEEP FROM FREEZING — No. 970

FRAGILE LIQUID — No. 950

SPECIAL — No. 960

KEEP DRY — No. 971

WILL CALL — No. 951

FUTURE — No. 961

SAMPLE — No. 972

Nos. 937–938
1000—$1.00
5000—$ .75 per M

VIA AIR MAIL — No. 937

AIR EXPRESS — No. 938

ENCLOSURE — No. 936
Embossed—$1.00 per M

Nos. 939–940
1000—$1.50
5000—$1.00 per M

VIA AIR MAIL — No. 939

AIR MAIL — No. 940

REGISTERED MAIL — No. 941

Nos. 941–942
60c per thousand

Special Delivery — No. 942

CUT SINGLE IF PREFERRED . ASSORTED TITLES AT QUANTITY PRICES

Ever Ready STOCK CAUTION LABELS

HANDLE WITH CARE
GLASS
This size, 2 x 3, in FOUR DESIGNS: A—B—C—D. Color deep red. Roll form or flat. 1000—$1.50 5000—$1.00 per M 10000—$.85 per M.
This size, 2½ x 3¾, in FOUR DESIGNS A—B—C—D. Color deep red. Roll form or flat. 1000—$1.85 5000—$1.25 per M. 10000—$1.10 per M.
This size, 3¼ x 5, in FOUR DESIGNS A—B—C—D
Color deep red. Roll form or flat.
1000—$2.50 5000—$1.75 per M 10000—$1.45 per M
This size, 4 x 6, in FOUR DESIGNS A—B—C—D. Color deep red.
Roll form or flat. 1000—$2.85 5000—$2.15 per M 10000—$1.85 per M.
EVER READY LABEL CORP., N. Y. C.

RAILWAY EXPRESS PROMOTES SPEED AND SAFETY WITH LABELS

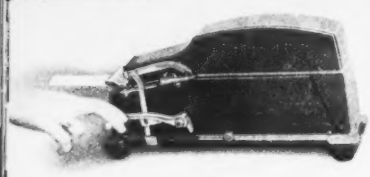
The advertisement to the right is one of a series now in national use by the Railway Express Agency. In such magazines as The Saturday Evening Post, the Railway Express Agency is telling shippers of the vast importance attached to the use and observance of the proper labels on shipments.

THIS SIDE UP WITH CARE
RUSH
CAUTION
LIQUID IN GLASS
HANDLE CAREFULLY
LABELS that MEAN what they SAY
"RUSH"..."HANDLE WITH CARE"..."KEEP from HEAT and COLD"..."DELIVER IMMEDIATELY on ARRIVAL"...these are a few of the many special labels used by Railway Express to insure speed, safety and careful handling.
And these shipping instructions are not "suggestions"...orders that must be followed literally.
The best there is in transportation
SERVING THE NATION FOR 95 YEARS
RAILWAY EXPRESS AGENCY, Inc.
NATION-WIDE SERVICE

The labels above are indicative of the types of *Special Caution Labels* that we have made. There are certain lines of business that require such specialized labels to insure the proper handling of their products in transit. Consult us regarding your specific requirements.

Ever Ready Gummed Tape-

COMBINATION No. 1—*Automatic Sealer No. 10*



An innovation in gummed tape moistening. Has fine lines. One stroke cuts and moistens tape. Length can be varied. Pressure plate and brush principle assure perfect moistening surface. Takes tapes from ½" to 1½" wide.

Price: $17.50

Finish: Silver crackle with nickeled parts.

Fifty rolls, 1¼", 35-lb. tape, 500 ft. to roll, printed one color, 48c per roll . . . . . Total $24.00

Total retail value $41.50

COMBINATION "DEAL" PRICE $35.00

COMBINATION No. 2—*Packer Sealer No. 30*

Counterboy Product. Durable, efficient machine for 2" or 3" tape. Used by large

mail order shippers throughout the country—proving its efficiency. Cuts and moistens tape to varied lengths.

Price: $20.00

25 rolls, 3", 60-lb. tape, 600 ft. to roll, printed in two colors, at $1.25 per roll . . . . . Total $31.25

Total retail value $51.25

COMBINATION "DEAL" PRICE $45.00

COMBINATION No. 8
Express Sealer No. 1½

Has same construction and features as Express No. 3. Recommended for counter use.

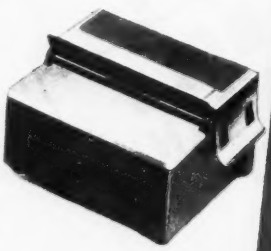
Price $3.50

16 rolls, 1", 35-lb. tape, 500 ft. to roll, either orange, grey, blue or yellow kraft, printed in one color, at 80c per roll . . . . . Total $12.80

Total retail value $16.30

COMBINATION "DEAL" PRICE $12.50

COMBINATION No. 9
Labeler



Brush principle—assures even application of moisture. Large water reservoir eliminates constant filling. Special pressure plate construction permits one hand operation.

3½" moistening width	Price	$4.00
5½" moistening width	Price	6.00
7½" moistening width	Price	8.00

You may deduct 33⅓% from these prices when purchasing any of the above labelers in conjunction with labels amounting to $5.00 or more.

Ever Ready's NEW Moistener

AFTER 10 YEARS OF EXPERIMENTING *Ever Ready Recommends a Sanitary Moistener*

UNLIMITED USES FOR THIS REMARKABLE NEW MOISTENER

1 **MOISTENING POSTAGE STAMPS** is made easy—gives an even moistening.

2 **MOISTENING LABELS** now means moistening evenly and helping adhesion.

3 **SEALING ENVELOPES**—Speeding up the sealing of envelopes is no small part of the new moistener's work.

A Self-Cleaning Moistener

Moistening surface is velour—self-washing—retaining no dirt—won't congeal. It is clean . . . looks clean . . . stays clean. A neat aluminum cap prevents evaporation—one filling of water lasts a long time.

GUMMED SEALING TAPE

Owing to fluctuations of the gummed kraft sealing tape prices, we find it impossible to list more than a few tape prices. We solicit the opportunity of quoting on your requirements not covered on these pages.

Bear in mind, please, that Ever Ready offers plain and printed tape in all sizes and colors.

All machines listed under "Deals" may be purchased separately at prices quoted.

Sealing Machines and Moisteners

COMBINATION No. 3— *Jiffy Automatic Taper*

Combines simplicity and sturdiness in modern finish. Holds tape from ½" to 1½". Lengths from 2" to 6".

Finish: Green, Bronze or Silver.

Price: $15.00

25 rolls 1", 1¼" or 1½", 35-lb. tape, 500 ft. to roll, printed one color, at 60c per roll . . . . . Total $15.00

5 rolls of plain tape, above widths, at 30c per roll . . . . . Total $1.50

Total retail value $31.50

COMBINATION "DEAL" PRICE $25.00

COMBINATION No. 4— *Ever Ready Tape Sealer*

Simple tape moistening device has special patented dry-tab feature enabling operator to withdraw tape, moisten, cut and apply to package without fingers coming in contact with wet side of tape.

Price: $15.00

Finish: Polished aluminum.

50 rolls of 1½", 35-lb. tape, 500 ft. to roll, printed one color, at 55c per roll . . . . . Total $27.50

Total retail value $42.50

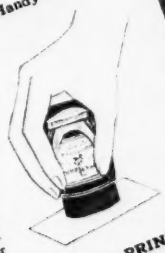
COMBINATION "DEAL" PRICE $36.25

35c

No fuss—No muss
A Jiffy Moistener

For Use In Every Home and Business

The new Ever Ready Moistener belongs on every desk where stamps, labels and envelopes are used. Handy to Hold—Handy to Use.



Ever Ready Moistener

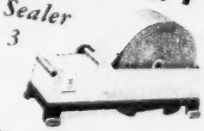
Made of glass, with velour moistening surface and aluminum cap. By Appearance suited for Executive's desk.

FOR SALE AT STATIONERS, PRINTERS, OFFICE SUPPLY DEALERS

COMBINATION No. 7

Express Sealer No. 3

New type of hand-pull machine.



Simple loading, with *no* adjustment gadgets. Very attractive. Streamline design. Works on efficient brush-moistening method.

Price: $5.00

10 rolls, 3", 60-lb. tape, 600 ft. to roll, plain grey, orange or blue kraft, at 75c per roll

or

15 rolls, 2" tape, in any of above colors, 50c per roll

Total $7.50

Total retail value . . $12.50

COMBINATION "DEAL" PRICE $10.00

COMBINATION No. 6

Sealrite No. 2

Same features as Sealrite No. 322, width capacity 2".

Price: $3.50

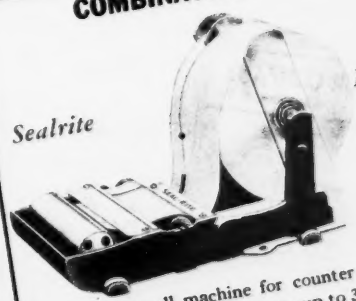
20 rolls, 1½", 35-lb. or 30 rolls 1" plain tape, 500 ft. to roll . . . . . Total $5.00

Total retail value $8.50

COMBINATION "DEAL" PRICE $6.00

COMBINATION No. 5

Sealrite *No. 322*



Simple hand-pull machine for counter or shipping room use. Takes any width tape up to 3". Has brass roller attachment.

Price: $5.00

Finish: Grey enamel.

16 rolls, 1", 35-lb. tape, 500 ft. to roll, printed one color, at 60c per roll . . . . . Total $9.60

5 rolls, 1" plain tape at 20c per roll . . Total $1.00

Total retail value $15.60

COMBINATION "DEAL" PRICE . . $11.75

. . . *when ordering* . . .

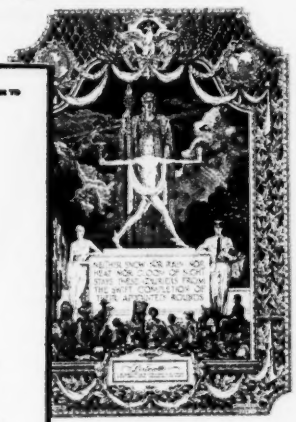
When ordering one of the Combination "Deals," be sure to specify the following:

a—number of the deal
b—copy for printing (where printed tape is specified)
c—width of tape (where there is a choice)
d—color of tape (where there is a choice)

All prices quoted subject to any tax imposed by the government. We will gladly send any machine on a one-week approval basis to any firm rated in Duns and Bradstreets.

Ever Ready LABELS approved by U.S. POST OFFICE

THIS letter of approval from the United States Post Office Department covers the correctness of form of Ever Ready Labels. These shipping labels are the proper Post Office approved forms for parcel post shipments. We suggest that you see your local postmaster if you are considering the use of any other arrangement. He will advise you properly. Remember—the Post Office is willing and anxious to cooperate thoroughly with you on matters that will speed up your mailing service.



Post Office Department
THIRD ASSISTANT POSTMASTER GENERAL
Washington

90877

March 14, 1935.

Mr. Sidney Hollaender,
Ever Ready Label Corporation,
257 West 17th Street,
New York, N. Y.

My dear Sir:

With reference to your call today at the Department, submitting a copy of the matter which the Ever Ready Label Corporation intends to insert in its forthcoming catalog, showing a number of address labels printed by that Corporation, you are advised that the labels reproduced on the sheet numbered from 157 to 170, inclusive, are in harmony with the provisions of the postal laws and regulations governing the preparation of address labels and, therefore, parcels bearing such address labels otherwise conforming to the requirements of the postal laws and regulations are acceptable.

It is understood that label No. 165 is to be placed on parcels in connection with the return card of the sender.

Very truly yours,

CAE/r

J. Meilenbuger
Third Assistant Postmaster General

Ever Ready LABEL OK'd BY LABEL USERS

Pertinent Paragraphs

¶ .. promises not "mere idle words"

Both packages arrived promptly this morning. Many thanks for the "Ever Ready" service. We were thus able to satisfy our customer and, incidentally to convince ourselves that your promises of good service and co-operation are not mere idle words.

Southern New England Telephone Co.

¶ .. more business—best recommendation

The best way we can show our feeling towards you, that is whether your service meets our approval, etc., is to send you another order for sample mailing, same design as the first lot of 250,000.

Vick Chemical Co.

¶ .. twelve years of continuous patronage

After spending several years of floundering around trying to find a label that would suit our various requirements, we were recommended to you people in 1923 and have been doing satisfactory business with you ever since. *Paterson Parchment Paper Co.*

¶ .. little labels close big deals

Several millions of your stickers in rolls have been used in demonstrating our Stamp Affixers. Your product has met with the approval of ourselves, our agents, and the users of our machines, and the service rendered has been very satisfactory.

Standard Mailing Machine Co.

¶ .. highly pleased with the work

We appreciate the excellent service you have rendered us.

We have been highly pleased with the work you have turned out and hope that our relations will be as amicable in the future as they have been in the past.

Metro-Goldwyn-Mayer.

¶ .. A dependable Source of Supply

Printed labels play a very important part in our advertising service to our customers. It was very important to us from the outset to select a dependable source of supply for our labels and we are very happy to acknowledge at this time that we made no mistake eight years ago.

In every one of the countless hundreds of orders you executed for us, in less than half the regular scheduled time, we were impressed by the high quality of product and intelligent service that accompanied it.

Doughnut Corporation of America.

¶ .. Favorable Comments on our Labels

We need a new supply of mailing labels and again the order is being placed with you because we are very satisfied with our labels and your service.

You will probably be interested in knowing that we have received a number of favorable comments on the appearance of our labels.

The Reuben H. Donnelley Corp.

¶ .. Don't Remember One Single Complaint

The excellent quality of your labels and the fine service your organization has given us is greatly appreciated.

We make Ever Ready Razors—You make Ever Ready Labels. Ever Ready hands a bouquet to Ever Ready.

I don't remember one single cause for complaint as to quality or service.

American Safety Razor Corp.

¶ .. Office Girls and Shipping Clerks Enthusiastic

Your labels are by far the best labels we have ever had, as regards appearance, texture, perforations, etc. Office girls and shipping clerks are both enthusiastic over them: hence this word of appreciation for the splendid work you did. *Walker, Corp. & Co., Inc.*

¶ .. Research wins yearly contract

Having just contracted for our annual requirements we take this occasion to express our hearty appreciation of the service you have rendered, particularly in developing materials best suited to our individual requirements. Your ability and desire to render service has always materially influenced our negotiations with you.

Pitney-Bowes Postage Meter Co.

¶ .. We Select Good Suppliers . . .

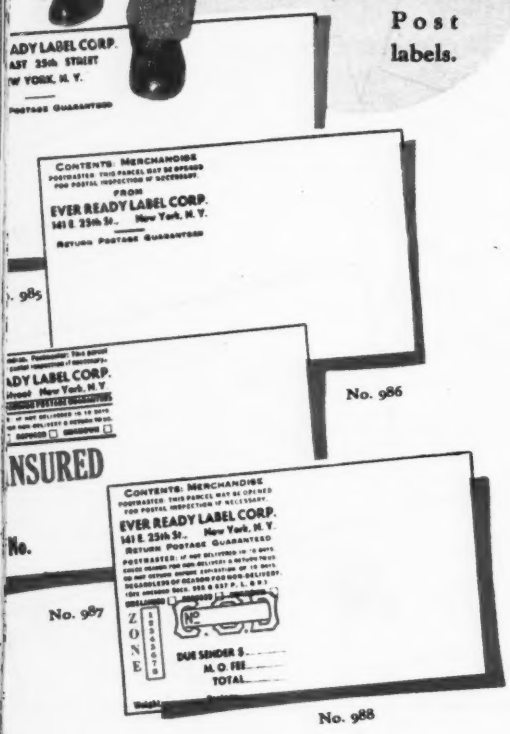
Our turnover of employees and suppliers is probab as low as any manufacturer in the country. The reaso for this is simply that we select good employees fro the beginning . . . and good suppliers too.

Our continuous purchases for nine years from y is not exceptional, but indicates our original choi in our label supplier was wisely made.

Health Products Corporation.

POSTAL INFORMATION FOR SHIPPERS AND MAIL USERS

The U. S. Post Office has certain rules and regulations about address labels. You should follow these forms on your own Parcel Post labels.



FOURTH CLASS MATTER

(Domestic Parcel Post)

FOURTH-CLASS MATTER embraces what is known as domestic parcel-post mail exceeding 8 ounces in weight and includes merchandise, farm and factory products, seeds, cuttings, bulbs, roots, scions and plants, books (including catalogues), circulars and other printed matter, and all other mailable matter not embraced in the first and second classes. (Sec. 569, Postal Laws and Regulations.)

UNMAILABLE MATTER. All matter is unmailable which is of a harmful nature, such as poisons; explosives and corrosive articles; matches, except safety matches (strike only on box variety); live animals, fowls (except day-old chicks, day-old geese, day-old guinea fowl, and day-old turkeys), insects, and reptiles; articles exhaling a bad odor. The postal laws provide a severe penalty for the mailing of harmful articles.

LIMIT OF SIZE. Parcel-post matter may not exceed 100 inches in length and girth combined. In measuring a parcel the greatest distance in a straight line between the ends (but not around the parcel) is taken as its length, while the distance around the parcel at its thickest part is taken as its girth. For example, a parcel 35 inches long, 10 inches wide, and 5 inches high measures 65 inches in length and girth combined.

RATES OF POSTAGE on fourth-class matter—to be fully prepaid—are by the pound, according to distance or zone, a fraction of a pound being computed as a full pound.

MARKING PACKAGES

THIRD CLASS (up to 8 ounces) and FOURTH CLASS (over 8 ounces) MAIL. The shipper's name must include the name and address (including street address) as well as the words "Return Postage Guaranteed" if the package is to be returned in case of non-delivery. This copy should be placed in the upper left corner of the address side. Your return card should NEVER be printed at the bottom of the label—it should always be at the top or at the left end of the label. The reason for this regulation is that a MAIL CLERK IS ACCUSTOMED TO LOOK AT THE BOTTOM OF THE LABEL FOR THE DESTINATION OF THE PACKAGE. A package with a label having the sender's card printed at the bottom is apt to be returned to the city from which it was mailed.

Approved Postal Forms 985-986-987-988 are obtainable in any size to meet your requirements.

SEALED PACKAGES. To send sealed packages at parcel post rates—the package must bear a label with the following clause *printed* on it.

Contents—Merchandise
POSTMASTER: This parcel may be opened for postal inspection if necessary.
Return Postage Guaranteed.

This clause must be *printed*—it cannot be written or typewritten on the label. When buying labels intended for use on parcel post shipments, be sure to have this clause included as part of the printed copy.

C. O. D. MAIL

The sender of a mailable package on which the postage is fully prepaid may have the price of the article and the charges thereon collected from the addressee.

No. 988 illustrates the prescribed form for marking C.O.D. mail. C. O. D. insignia must be red.

INSURANCE REGULATION

A Mailable parcel on which the postage is fully prepaid may be insured against loss in the amount of its actual value at the prescribed rate.

Postal Authorities and the insurance companies insuring parcel post shipments, request that nothing be printed on a label to indicate the contents of the package when such information might tempt a person to steal. For Example: "Fresh Flowers" might be printed on a florist's label but "Diamonds, Watches and Jewelry" should not be printed on a jeweler's label. Insured insignia must be red.

DOMESTIC AIR MAIL

RATES. The rate of postage on air mail is 6 cents for the first ounce and 6 cents for each additional ounce or fraction of an ounce. This is a recent ruling and marks a considerable decrease over former rates.

MAILABLE MATTER. Any mailable matter except that liable to damage from freezing may be sent by air mail. Parcels may not exceed 70 pounds in weight and 100 inches in length and girth combined. The prohibition against acceptance of articles liable to damage from freezing does not include cut flowers.

MARKINGS. Air mail should be conspicuously indorsed "VIA AIR MAIL" in the space immediately below the stamps, above the address. Ever Ready "Air Mail" stickers on Page 40 have been found most advantageous for marking mail for Air Delivery.

SPECIAL DELIVERY

(Parcel Post)

Third and Fourth Class Mail matter for delivery in U.S.A. on which the proper Special Delivery fee is prepaid in addition to regular postage, will receive the same handling and transportation as is accorded First Class Mail, in addition to immediate delivery at the office of destination.

Shippers are requested to display prominently special delivery label, particularly when regula and not special delivery postage is used.

SPECIAL HANDLING

Fourth Class Matter only on which the proper special handling fee is prepaid in addition to regular postage will receive the most expeditious handling and transportation possible but does not entitle the parcel to special delivery upon arrival at the office of destination.

ED BY THE CUNEO PRESS, INC., CHICAGO

Ever Ready's Complete Label Service Considers Your Special Needs

Every business has, in addition to its regular products, at least one or more specialties—by-products of specialized machinery and ability.

Ever Ready produces a great many such specialties, along with the regular products mentioned on the foregoing pages.

★

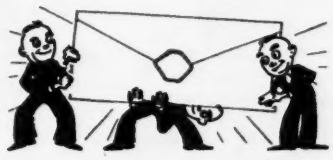
COLORED GUMMED OR UNGUMMED PAPERS—may be used on any label requirement in place of white at slight added cost.

Colored labels have unusual advantages in many specific instances. Colors available: RED, BLACK, LEMON YELLOW, GOLDENROD, BLUE, GREEN, ORANGE, PINK, SALMON, BROWN, BUFF, GREY.

★

GUMMED OR UNGUMMED SILVER AND GOLD PAPERS—give a rich appearance to packed merchandise. When used for labels, stickers or seals, gold or silver papers lend that "tone" so important to the success of your package or any message you deliver. We will gladly send a Sampler Package.

★



GUMMED GLASSINE OR TRANSPARENT PAPERS—The Post Office Department has accepted glassine seals as a substitute for the old-fashioned wax seals on registered mail. Ever Ready produces a great number of these glassine seals for Banks, Insurance companies and other registered mail users. Glassine paper has other uses, such as stamp hinges, seals for spouts on salt containers, etc.

★

GREASEPROOF PARCHMENT PAPERS—available for use on food products, on bakery goods, meats, provisions, etc.

★

GUMMED CLOTH AND HOLLANDS—gladly furnished by Ever Ready for special binding needs. Write for samples and prices.

SPECIAL INKS—it is a very simple matter for Ever Ready to *match* the color of any printing job. Special grades of inks to meet unusual requirements are yours to command.

★

STRIP GUMMED PAPERS—may be handily converted into gummed-end labels for tipping on forms, or banding on merchandise—also for use on letterheads, billheads, yarns, etc.

★

GUMMED FACE LABELS—Labels for use on windshields, store-fronts, etc., are made by Ever Ready on special paper. The message is printed on the gummed side.

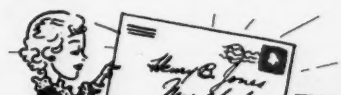
★

NUMBERING AND VARNISHING—Ever Ready offers complete facilities for numbering labels either gummed or ungummed—for varnishing labels in accordance with your needs.

★

PUNCH HOLE LABELS—Ever Ready offers complete facilities for furnishing special punched labels to be used on Counterboy, Sep-A-Label Machine attachment, and for addressograph machines.

★



POSTAGE METER TAPE—Ever Ready supplies the necessary tape for Postage Meter Machines—accurately cut and laterally serrated—a problem we solved for Pitney Bowes Postage Meter Co.

★

CHAIN STORE SUPPLIERS LABELS—Chain store mass-production suppliers will find at Ever Ready complete facilities for furnishing pre-addressed labels on rolls.

★

PRICE STICKERS—Every year Ever Ready produces some 300,000,000 gummed price stickers for America's largest group of chain department stores. Each label is made with a special notch to fit a price imprinting machine. This is another of Ever Ready's specialized jobs.

FLEISCHMANN YEAST LABELS—here again we have a problem of machine application where a small label was required equipped with a series of punch holes to register with the machinery. The label is a familiar design to everyone. Ever Ready has produced this in a roll form, suitable for the rapid application required in this tremendous volume production.

★

DUPLICATE COPY ADDRESS LABELS—A national organization, some years ago offered in their radio broadcast a complimentary edition of Sherlock Holmes Mystery Stories. To facilitate the handling of the numerous requests, Ever Ready supplied a perforated roll label interwound with a duplicate and a one-time carbon, making possible the typing of a duplicate and permanent record of prospects for future follow-up. This set up enabled the organization to speedily respond to requests and yet have the necessary data in their file for future reference.

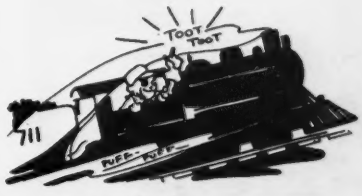
★

MANILA AND KRAFT PAPERS—a complete assortment of gummed and strip-gummed papers is offered for specialized uses. Gives extra strength and adhesion.

★

CARDBOARD WRAPPERS FOR GEM RAZOR BLADES—This item is made of cardboard printed with a pertinent message and prepared in continuous rolls equipped with a punch hole arrangement enabling the wrapper to be applied to the razor on an automatic feeding machine. The punch holes and the width of the protective wrapper must be accurate to properly register on this machine and with Ever Ready's specialized equipment, we are in a position to furnish this form at an amazingly low cost.

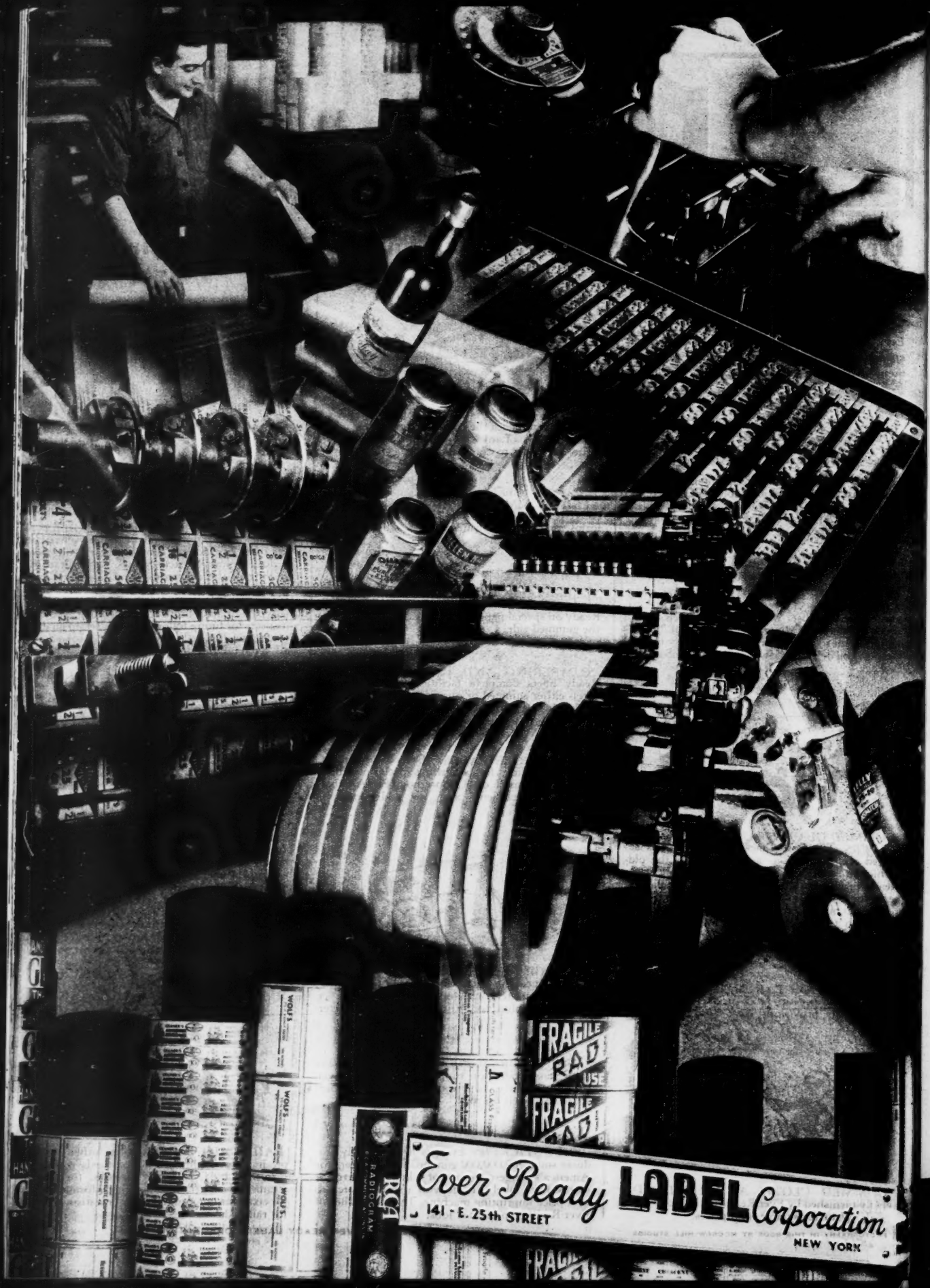
★



RAILROAD TAPE—Among other unusual products for highly specialized needs is this tape furnished by Ever Ready in rolls, for charting steam and electric locomotive performance, and for coal consumption records—a statistical service for railroads.

PHOTOGRAPHY IN THIS BOOK BY MCGRAW HILL STUDIOS

COPYRIGHTED 1935 BY EVER READY LABEL CORPORATION, N.Y.C.


FRAGILE
RAD
USE
FRAGILE
RCA
RADIOGRAM
Ever Ready LABEL Corporation
141 - E. 25th STREET
NEW YORK

XUM

LABELS

LABELS

LABELS

LABELS

LABELS

LABELS

LABELS

LABELS

LABELS

LABELS

EVERY SIZE
EVERY STYLE

To Help Your Business Save Time - Save Money - Speed Production

MEN—trained for years in the production of **LABELS**, familiar with hundreds of thousands of actual **LABEL** jobs . . . plus **MACHINES**, built to produce one product, **LABELS** . . . equals minimum cost, and maximum results for the business which uses Ever Ready **LABELS**. Every Ready makes all sizes and shapes of **LABELS** — gummed or ungummed — in rolls or flat — perforated or plain edge, in one or more colors.

Consult Ever Ready Today

Ever Ready LABELS

"Go Places and Do Things"

you will appropriate or charge your customers for it.

Consider the matter of family design for your packages. If you want your labels to look like some that you are using at the present time, tell your supplier. More and more firms are doing this now, and are building goodwill for other products in their line by this method. Show your label supplier your advertising. Help him to think your way. He has to do an advertising job for you, and it is as important as any advertising program you have. How do you want them packed? 100 to a box? 1,000 to a box, or 5,000? Will you use them on automatic labeling facilities, or attach them by hand? Are you going to use a new container? What is the shape of it? Can your label shape be modernistic? Will your policy permit your labels to "go modern?" Those are a few of the things your label supplier has to know.

Select metallic bronze papers or metal foils if they are in line with your requirements. Use plain paper if the price is limited. Use varnish or lacquer if you can; but insist on the right gumming, the right packaging, the right weights of stocks. Those are the "cellar improvements" about which you don't hear much, but which are essential to all phases of your label supply.

TRANSPARENT CELLULOSE LABELS

SINCE the discovery and practical use of transparent cellulose for packaging purposes, there has been a natural demand for a transparent label. The constant demand for a product of this kind by progressive users of labels also contributed to the successful marketing of a transparent label. Years of experiments and tests coupled with patience and perseverance, finally produced transparent labels for practical purposes. Decalcomania labels have been known for many years past, but never before was it possible until the advent of the present transparent cellulose labels, to apply a permanent design or lettering in relief on a transparent background, which is impervious to stains, water, grease, etc.

As all decalcomania labels must of necessity be moistened with water, a special grade of paper had to be employed and a special adhesive had to be made, which after application would not expand or contract under varying climatic conditions. The adhesion is perfect and the label appears to be fused with the container as an integral part of it.

The color effects created by such labels, due to the transparent background, are attractive to the eye, and the design in relief on the surface of the container, whether white or colored, creates an ultra smart appearance. They are being successfully applied to glass, synthetic compounds, lacquered metals, finished woods, cellulose products and non-absorbent papers. The packages in the accompanying illustration demonstrate the feasibility of using the same style label for the outer package, as applied to paper, and for the inner package as applied to glass.

Transparent cellulose labels as applied to bottles, jar, and paper wrapping

PACKAGE LITERATURE IN ADVERTISING

BY ROBERT R. BROWN

PACKAGE ADVERTISING may be defined as that form of consumer selling or promotion which utilizes the retail package as the medium or vehicle for carrying the message. It may have for its purpose any one or all three of the following objectives: (1) Keeping customers sold on the product. This objective is most commonly attained by utilizing the package literature to give complete and detailed instruction for the use of the product. In addition, this objective is attained by using the package literature to constantly remind the customer of the unique sales points of the product or its individual institutional story. (2) The second use for package advertising is to build volume through variety of usage. More often than not, a product has other uses than the one for which it is commonly bought and it is in this particular that package advertising is especially adaptable for inducing a customer to try other uses. A new use is a new customer in any merchandising language. (3) The third main objective for the use of package advertising, is for *cross-advertising* purposes. This consists of calling the attention of a customer of one product to other products in the line by means of package advertising.

Under any one of the three headings mentioned above, package advertising may utilize recipes, sampling coupons, premium offers, testimonials, illustrated instructions, lists of uses, booklet offers, prize contests, proof-of-purchase coupons, institutional stories, etc.

In general a package insert may be defined as a piece of advertising literature which is made to accompany a product by means of some form of insertion. The various classifications of inserts are as follows:

1. *Co-Product Inserts.* In this form of insert, the printed literature is inserted in with the actual product. It usually is placed on top of the merchandise as a last operation before closing the package. It can be inserted by hand or automatically by special insertion machinery. Due to acid reaction of inks, certain non-poisonous vegetable compounds should be used if the product requires. Government regulations are strict and specific in this regard. Usually single leaf inserts are used, due to the fact that with finer products such as flour, etc., a folded insert will bring out considerable of the product when the insert is removed. Specially oil treated papers are used with oily products such as canned sardines, shoe polish, etc.

2. *Inner-Carton Inserts.* These are inserts which are inserted inside of the protective carton along the side of the bottle or jar. They can be inserted by hand or special inserting machinery. They are removed after the bottle or jar has been taken out. Due to the fact that they usually cannot be seen unless the carton is examined after the bottle or jar has been removed, such inserts are often made inexpensively to allow for a high percentage of waste.

3. *Over-End Inserts.* This form is inserted over the end of the cartoned jar, tube or bottle to make more certain of it not being overlooked when the carton is opened. This requires a longer form of insert, a narrow multiple fold and breaking the insert over the end of the container. They can be inserted either by hand or special inserting machinery at a high rate of speed. Removal from the carton and its being seen is insured by this method with the exception of the cases where the container opens at both ends and is removed through the bottom of the carton rather than the top.

4. *Banded Inserts.* A banded insert is one which is confined to an un-cartoned container by means of bands consisting of various materials. The most used band is the rubber band. This is strictly a hand application operation. The rubber band is likely to roll off in handling and is subject to deterioration which besides losing the insert marks the age of the product. Other banding materials are kraft paper and transparent cellulose. This operation is usually done by hand, although special automatic machinery can be built. The most notable example of a banded insert is to be found on the Three-In-One Oil can. The transparent cellulose band is often used for label protection as well.

5. *Under-Label Inserts.* This form is carried by means of inserting the folder under the label. It can be done by hand or by means of specially built automatic machinery. In some cases the label portion holding the insert is left unglued in order to allow removal of the folder. There is danger, however, of the folder slipping out in handling. To overcome this the folder or the label is spot glued which requires that the label be torn in order to remove the insert. The most notable examples of these two forms of under-label inserts are on the Certo bottle and Carbona.

6. *Envelope Inserts.* In this case a separate envelope is labeled to the back of the container by hand or labeling machinery and the folded insert is placed in the envelope by hand. The oldest example of this form of package advertising is that of the Feen-a-mint bottle. The main drawbacks of this form are the bulkiness of the combined envelope and insert and the inaccuracy of spot labeling at high production speed. Its commendable point is to be found in the envelope serving as a container for reinsertion after the insert is read.

For purposes of package advertising the surface of the container is often utilized to do the entire package

LABELS THAT SAY "TRY ME"

Business goes to him that asks for it.

The inefficient label says "I'm Jones' Tea."

The sales producing label proudly proclaims "I'm Jones' tasty, savory tea," and shows by its appropriate dress that it is a product from the distant, romantic Orient, land of spices and temples.

Labels designed by Wurzburg Brothers are busy all the time—making good impressions—creating sales—and insisting that Mr. and Mrs. Consumer "Try Me."

Send your label, carton and wrapper problems to our Printed Products Division for skillful and experienced aid in producing "Sales Assisting" designs.

WURZBURG BROTHERS, Memphis, Tenn.

ESIGNERS AND SUPPLIERS: PAPER LABELS—FOIL LABELS—CARTONS—PRINTED WRAPS.

XUM

LOOK CLOSELY AT OUR LABELS

CAMEO
Die Cutting & Engraving Co.
154 W. 14th. Street
New York

XUM

advertising job. Particularly is this true of tin containers such as types used for fruits and vegetables and the types used for insecticides. These containers give a large printing area. For the other types of containers the package advertising job is usually limited to one of the four surfaces.

1. *Front Label.* Although the front area as a means of package advertising formerly was used extensively, the modern trend of simplified design has removed practically everything from the front label except the design elements. One of the most notable present examples of this former practice, is to be found in the label on some of the Squibb products. One way which has been resorted to as a means of meeting both the demand for simplicity in label design and the necessity for package advertising, has been to extend the front label around the two sides of the container. The front area is made to carry the design while the package advertising is placed on the two wings. The all-around label is merely an extension of the idea and is done for the same reasons.

2. *Back Label.* While the front label is usually devoted entirely to label design, the back label is utilized for package advertising purposes. It is usually limited to directions for the use of the product which necessarily must be brief. Occasionally other uses and other products are listed but seldom is there any space for the inclusion of a selling message.

Types of package inserts. Rear row: Branded insert with transparent cellulose band, over-end insert, machine applied, collar label, hand applied, inner-carton insert, machine or hand wrapped. Outsert applied to bottle. Front row: neck band insert, applied to bottle, underlabel insert, and envelope insert.

3. *Cap Area.* The top or cap of a container is frequently used for package advertising purposes. Its most usable form is the lithograph metal cap. The most notable example of cap area advertising is to be found on the Best Foods Mayonnaise jar, where various recipes and cross-advertising are placed. Another form used is that of a pasted top label.

4. *Bottom Area.* Particularly in cases of high class cosmetics where the appearance of the container is of extreme importance, the bottom surface of the jar or bottle is utilized for package advertising which usually takes the form of a pasted label but has the disadvantage of the likelihood of its not being seen, although some very good results have been obtained

XUM

ORDINARY . . . OR UNUSUAL?

Cameos have always been considered the utmost in art, usually made of Shell or Ivory by Skilled Craftsmen working for months on end.

We now obtain similar effects by our process, retaining all the beauty and height of impression.

Wrappers or box tops so decorated are classed among the exquisite. Prices are consistent with quality production.

RICHARD M. KRAUSE, INC.

52 EAST 19th STREET, NEW YORK CITY

CHICAGO — BOSTON

WYOMISSING

No. 5715 Red Flint and Gold Duplex Coated on MF Book Stock, 76 lbs., 500, 26 x 20

WYOMISSING GLAZED PAPER COMPANY

READING, PA. *and* NEW YORK, N. Y.

Beauty Plus Economy

ENGRADEL

TRADE MARK

U. S. PATENT NO. 1803836

TRANSPARENT LABELS

add an unusual note of beauty and smartness to your jars and bottles. They produce a lettering effect of enamel on glass that is very attractive to the customer. And because they utilize the blank space on your container one size of label can be made to fit several sizes of bottles or jars.

Gloria

ONE SIZE LABEL FOR 5 SIZE JARS

ENGRADEL Transparent Labels (fully protected by patents) fasten themselves tenaciously to any surface. They can be easily cleaned and kept clean. Just as cosmetics add to feminine charm, so do ENGRADEL labels add excellence to your package. Jars and caps shown at left by courtesy of Hazel-Atlas Glass Co.

USED BY
dozens of leading perfume, cosmetic and toilet goods houses, both here and abroad. At right is shown a De Markcoff perfume bottle.

Write for complete information—samples and prices.

BACK LABELS, TOO! The finest lettering comes sharp and clear on ENGRADEL Labels. One size of direction label usually fits a whole line.

PALM, FECHTELER & CO.

15 EAST 26 ST.
NEW YORK, N. Y.

CHICAGO BOSTON CLEVELAND
PHILADELPHIA BUFFALO

ONE SIZE LABEL FOR 4 LARGE JARS

Other types of package inserts. Left to right: Collars for milk bottles, label area folder, top area folder, under-key folder

from utilizing this space. The most practical container for utilizing the bottom area is to be found in the sifter-top container, which necessitates the bottom being turned up to view when the product is used.

Under the third classification is to be found those forms of package advertising which consist of separate units added to the package for the specific purpose of doing some special package advertising job. The three most widely used forms are:

1. *Collar Band.* This usually takes the form of a single sheet with a die-cut hole. However, Neher-Whitehead & Company of St. Louis have developed a patented form fitting collar which has been used extensively in the dairy field. These reach the dairy sealed together ready to go on the bottles.

2. *Special Banded Label.* This form consists merely of a printed strip of paper or other material which is wrapped around the container or product. Amolin has used their form and The Package Advertising Corporation has developed a special form called Ad-Seal-It which can be applied automatically in bread wrapping machines. It gives an over-lap sealed band around the wrap which carries the consumer message.

3. *Extra Wrap.* This form consists of a secondary wrap around the container which serves primarily to carry package advertising. The best example is to be found in the extra wrap on the Crisco can where the inside surface of the wrap is devoted to recipes.

4. *Tag Form.* With this method a string is used through the eyelet of a card, folder or booklet to tie it to the merchandise. This is most commonly done with such utensils as kitchen ware which do not offer opportunity for other means of package advertising. It is a hand operation.

The *Outsert* form is an interiorly sealed folder which is attached to the outside of a bottle, jar or carton by standard labeling methods and equipment. It remains confined in shipment and on the dealer's shelf; yet is readily opened by the consumer. No carton is necessary to carry the literature nor is a band needed to confine it to the container. They remain labeled to the container until such time as the customer has time and is disposed to read them. When opened and removed, a direction label remains permanently on the container. The Outsert views every package as having two sides: the sales side which includes the package design, label, cap and general appearance, and the re-sale which utilizes customers' circulation for package advertising purposes. The Outsert is a patented idea manufactured by Outserts, Inc., and combines all of the advantages of an insert with greater space allowance for the carrying of the product maker's message.

Ad-Seal-It bands for bakery products

The

Fent-Onamel DeLUXE PLATINUM TINT GUMMED LABELS

Fent-Onamel

So long as the outside is outside of the inside; the outside should create a favorable impression for the inside.

Appearances do count! Make them count in favor of your product by using Fent-Onamel labels.

The distinctive package allures, intrigues and coaxingly says, "Take Me!"

Use FENT-ONAMEL labels.

Please: before reading this message; examine carefully--critically, these illustrations of FENT-ONAMEL DeLuxe Platinum tint labels.

You noticed at first glance that they are something **distinctly different.** The background is delicate and softened to bring into alluring contrast:

Your Name and Message.

Very few labels do this.

With subdued background, your message in iridescent letters, instantly attracts and holds attention.

Labels of flashy tinsel background obscure your message. FENT-ONAMEL DeLuxe labels are rich, not gaudy---good taste offends none.

Tinsel tarnishes, but FENT-ONAMEL will retain its luster and iridescence permanently--It's Pyroxylin Protected!

FENTON LABEL COMPANY, Inc.

506-12 Race St., PHILADELPHIA, PA.

XUM

Fent-Onamel Labels are

No. 1322

No. 273

No. 923

No. 1312

No. 840

No. 433

No. 355

No. 860

FENTON LABEL Co

506-12 Race St.,

e Distinctly Different!

No. 109

No. 227

No. 1117

No. 1½X 3¼

No. 334

No. 1319

No. 824

No. 1205

L COMPANY, Inc.
PHILA., PA.

Write for The New 1936 CATALOG

"THERE'S A REASON!"

The new FENT-ONAMEL DeLuxe labels are Platinum and Gold Tint, finished with blue-black. FENT-ONAMEL gummed labels are **Distinctly Different** from the ordinary.

Of course, "There's a Reason!" There are several.

- . . . The materials used and the methods of making FENT-ONAMEL are as remote from the average as their appearance.
- . . . The background is delicate and softened to bring into alluring contrast: Your Name and Message.
- . . . The Gold and Platinum are Pyroxylin Protected, and will not tarnish nor scratch.
- . . . With your finger nail, or even a pen-knife try to scrape off the lettering or background without taking the paper with it.
- . . . The FENT-ONAMEL process uses no electrotypes, and the impression does not vary 1/1000 of an inch. Mathematical accuracy displaces guess work and entirely eliminates expensive make-ready.
- . . . The FENT-ONAMEL colors are mixed, ground and thermal applied by our own special machinery.
- . . . The adhesive is powerful, and sticks instantly when moistened. FENTON LABELS STICK AND STAY STUCK.
- . . . FENT-ONAMEL labels are made in over 2000 shapes and sizes; both square-cut and die-cut. No matter what size is required, we probably can furnish it.
- . . . FENT-ONAMEL is trade-marked and protected by the U. S. Patent Office. You can not buy FENT-ONAMEL labels, nor anything that nearly resembles them, except from the makers.

These are a few of the reasons why over 130,000 concerns purchase FENT-ONAMEL labels for their packages.

Write for the New 1936 CATALOG,
which includes samples and prices.

FENTON LABEL COMPANY, Inc.

506-12 Race St., PHILADELPHIA, PA.

Evening in Paris
THAT PERENNIAL BEST SELLER
IN ITS NEWEST DRESS
Printing by the Foxon Company

Courtesy of
Bourjois, Inc.

New Fashion Note for Package Labels:-

Packages are getting away from that "hard-boiled" look of pure modernism. Stiff angles, crude, bare lines are being softened and humanized. The successful package of tomorrow will continue to reveal daring turns of line and form, but it will possess human interest as well. Extreme sophistication grows tiresome. This sad old world wants to laugh again.

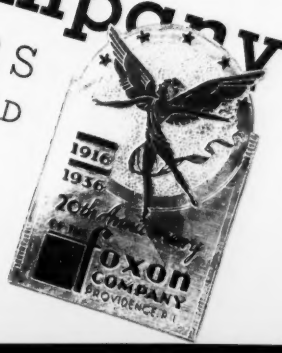
• The outstanding success of the Foxon Company as creators of package wraps, labels and displays is largely due to this knack of sensing the mode of the moment. Modes reflect the popular mood, and what violent changes have alternated in the past twenty years! The War, the Armistice, post-war confusion, the Big Boom, the depths of depression, New Deal hopes, another doubting period, and now, Recovery?

• Up or down, your package will prosper if it advertises to people something they want AT THE TIME WHEN they want it. In twenty crowded years of growth and development, Foxon has never discovered a safer principle to follow than this.

• Has YOUR package become frozen, out-dated? Consult

The Foxon Company

PACKAGE DESIGNERS
PROVIDENCE • RHODE ISLAND



TYPES AND USES OF COLLAPSIBLE METAL TUBES

BY FREDERIC REMINGTON

THE FIRST COLLAPSIBLE TUBE was invented by John Rand, Sept. 11, 1841, and is now on exhibit in the Smithsonian Institute at Washington. The elapsed period of over ninety years has seen the development of automatic and semi-automatic machinery for the manufacture of collapsible tubes in tremendous quantities at high speeds and the corresponding advance of machines to fill and pack them.

Collapsible tubes are the consumers "honest" package for there are no false bottoms, padded sides or surplus weight in them. With increasing efforts being made by legislators, civic organizations and consumer groups to prevent misbranding and misleading capacities it is well to consider tubes for the product to be packaged. Almost anything ranging from a semi-liquid to a heavy paste is admirably adapted to collapsible tube packaging.

Collapsible metal tubes with metal and molded closures. Courtesy of Peerless Tube Company

Collapsible tubes are sanitary, non-refillable, safe to the user, light weight, compact, honest measure and permanently attractive when carefully designed, lithographed and filled. Poor design ruins any container, and it is urged that skillful preparation of the design or redesign of the tube be followed in order that the greatest possible sales results may be accomplished.

The Collapsible Tube Manufacturers' Association have a complete list of standards of weight, wall thickness and shoulder thickness for the benefit of the entire trade and these standards are in general use. In addition to this there will be a tendency to standardize on neck sizes and cap sizes, etc.

The users of clipless closures have increased and the trend toward the use of pyroxylin lacquers or protective coatings has shown a still further use to the extent that such finishes have practically superseded the so-called alkali proof varnishes.

The stimulation of such contests as those held by MODERN PACKAGING in the annual All-America Package Competitions has produced a number of new and excellent designs for the collapsible tube industry and modernization of old tubes is continuing at a rate which promises to be satisfactory to both tube purchaser and tube manufacturer.

It is particularly interesting to note the simplicity of the newer tube designs and the elimination of endless amounts of reading matter which formerly appeared in the directions panel of collapsible tubes. This is proof that the manufacturers of tubed products are convinced that the public seldom takes the pains to analyze the directions printed on tubes of cartons. The shorter and more pertinent directions and reading matter are more easily and quickly read and are far more effective than the complicated instructions which are seldom followed by the user.

Practically all new tubes designed are without directions, these being incorporated in the design and the entire effectiveness being brought to the fore of the design itself.

New food products show increased sales in collapsible tubes and are slowly but surely calling public attention to the use of collapsible metal tubes in this field. If sales statistics could only be published of such products in tubes, unquestionably the American trend would be as great as the European, where today over 125 food products are packed in collapsible tubes.

A classification of collapsible metal tubes may be summarized as follows:

1. Pure tin tubes, made of new virgin tin, alloyed with a small amount of copper or other suitable stiffener, in minute quantities. No adulterant such as lead or other soft metals is used in these tubes and they are essentially for use for any product going on or in the human body. Tin tubes are light, strong and durable; chemically inert; and perfectly suited as a sanitary container for foods, cosmetics including tooth pastes, shaving creams and other products intended for personal use.

2. Aluminum tubes, admirably adapted for uses similar to tin, with the additional advantage of extremely light weight. A slightly stiffer tube than tin and normally competitive or a trifle cheaper than tin.

SUN TUBE CORPORATION • HILLSIDE, N. J.

CHICAGO, ILL.	DETROIT, MICH.	CINCINNATI, OHIO	ST. PAUL, MINN.	LOS ANGELES, CALIF.
Harry Holland & Son, Inc.	Harry Holland & Son, Inc.	R. B. Busch	Alexander Seymour	Package Associates
400 W. Madison St.	1941 W. Fort St.	100 So. Ohio Bank Bldg.	1745 University Ave.	900 East 31st St.

XUM

Aluminum tubes require some research in the adaption to certain products, particularly those containing alkalies, but in general they cover the same field as tin collapsible tubes.

3. Lead tubes, known as lead alloy tubes, made of pure lead with antimony or tin and antimony, and chiefly used for adhesives, shoe creams, rubber cements and articles where the contents will not be used on the human body.

4. Tincoated tubes, having a lead alloy base with an even distribution of thin coating of tin on the inside and the outside, made in such a manner that the two metals cannot be separated. These are the heaviest weight tubes and seem to be declining in volume steadily in the collapsible tube field to the substitution of the other three types, as their scrap value is exceptionally low to the tube manufacturer and the final appearance is not as good as pure tin or aluminum.

As the price of metals form a considerable factor in the cost of making collapsible tubes it is impractical to issue a price list as the metal cost fluctuates frequently and price adjustments are necessary.

SUGGESTED TYPE OF TUBE FOR VARIOUS PRODUCTS

	Tin	Lead	Tin Coated	Aluminum
Tooth Pastes	*			*
Shaving Cream	*			*
Cold Cream	*			*
Vanishing Cream	*			*
Cosmetics	*			*
Depilatories	*			
Vaginal Jellies	*			*
Ointments	*			*
Food Products	*			*
Artists' Colors	*	*	*	*
Paints	*	*	*	*
Tinting Colors	*	*	*	*
Inks		*	*	*
Glue		*	*	*
Pastes		*	*	*
Adhesives		*	*	*
Cements	*	*	*	*
Belt Dressing		*		*
Engine Compounds		*		*
Greases		*		*
Stain Solvents	*	*		
Hand Soaps	*			*
Leather Softeners		*		*
Insecticides		*		
Rat Pastes	*	*		

Standards of manufacture and tolerances are being held to closer limits than ever before by the manufacturers, and quality is the outstanding watchword in the entire industry today. With increasing facilities for prompt delivery the purchasers of collapsible tubes are more than ever assured of prompt service of a high quality package.

Plain tubes have no decoration of any sort and are generally used where the customer expects to attach a paper label or for prescription use or where the use of a tube in a small package packed with several other items would not require a decorated tube. At times the addition of a coating either in glistening white or in attractive colors adds to the appearance of a plain tube and still keeps the product within the confines of prescription or private use and tubes supplied in this way are termed "coated only."

Decorated tubes with attractive lithography are produced from original designs and this type constitutes the greatest improvement in appearance and selling value that can possibly be had in the collapsible tube field. Colors range from one up to four over the base coat and with the use of special plates color effects can

STANDARD SIZES AND CAPACITIES OF TIN, TIN-COATED, LEAD ALLOY AND ALUMINUM TUBES

Diameter x Length	CAPACITY Fluid Ounces	C. C.	Usual Opening and Neck
3/8x2	3/4 dr.	2.77	No. 8
1/2x2	1 1/2 dr.	5.54	8-10
1/2x2 1/2	1 3/4 dr.	6.47	8-10
1/2x3	2 dr.	7.39	8-10
1/2x4	2 3/4 dr.	10.17	8-10
5/8x3	3 dr.	11.09	10-12
5/8x3 1/2	3 1/2 dr.	12.94	10-12
5/8x4	4 dr.	14.79	10-12
3/4x3 1/2	5 dr.	18.48	12-14
3/4x4	6 dr.	22.18	12-14
7/8x3 1/2	7 dr.	25.88	12-14
7/8x4	1 oz. 0 dr.	29.57	12-14
7/8x4 1/2	1 oz. 1 dr.	33.27	12-14
1 x4	1 oz. 2 dr.	36.97	16
1 x4 1/2	1 oz. 4 dr.	44.36	16
1 x5	1 oz. 6 dr.	51.75	16
1 x5 1/2	2 oz. 0 dr.	59.15	16
1 x6	2 oz. 2 dr.	66.54	16
1 1/8x4 1/2	1 oz. 6 dr.	51.75	16
1 1/8x5	2 oz. 0 dr.	59.15	16
1 1/8x5 1/2	2 oz. 2 dr.	66.54	16
1 1/8x6	2 oz. 4 dr.	73.93	16
1 1/4x4 1/2	2 oz. 0 dr.	59.15	16-20
1 1/4x5	2 oz. 3 dr.	70.24	16-20
1 1/4x5 1/2	2 oz. 6 dr.	81.33	16-20
1 1/4x6	3 oz. 1 dr.	92.42	16-20
1 3/8x5	3 oz. 0 dr.	88.72	20-28
1 3/8x5 1/2	3 oz. 4 dr.	103.51	20-28
1 3/8x6	4 oz. 0 dr.	118.29	20-28
1 1/2x6	4 oz. 4 dr.	133.08	20-28
1 1/2x6 1/2	5 oz. 0 dr.	147.87	20-28
1 1/2x7	5 oz. 4 dr.	162.65	20-28

Note:—It is possible to obtain even the smallest neck (No. 8) on the largest tube and also a large neck on small tubes (within limits so that the cap does not come within 1/16" from the diameter of the tube). Write us for special information regarding non-stock necks and sizes.

be obtained up to six or seven shades. However, experience has indicated that simplicity of design and lithography makes the most effective sales package. Stock designs ready for the insertion of a trade name are available for certain types of products.

If complete protection against alkalies or acids is desired the tube receives a final coating of highly resistant lacquer at a small additional expense and such lacquered tubes afford the utmost in protection to the finished package and its contained product.

DURING 1935 a new revolutionary type of collapsible tube made its appearance. This is known as the calibrated tube, and is shown in an accompanying illustration. Also this year collapsible tubes for a variety of uses which in the past were restricted to other types of containers have been introduced. These have been used for such products as polishes, nose drops, gum massage jelly, certain food products, and automobile waxes. The shoe polish and wax products are packed in pure lead tubes, whereas the others are packed in pure tin tubes.

Carry many Products to Market

Leading manufacturers of cosmetics, tooth pastes, shaving creams, food and medicinal products, lubricating grease, cleaning wax, silver polishes and numerous other products find WIRZ Tubes the ideal package.

If you are looking for an attractive, sanitary, convenient package, let our Design and Manufacturing Departments make suggestions. Their experience covers a wide range of products . . . many of them best sellers.

Collapsible Metal Tubes
Metal Sprinkler Tops
Westite Closures

A. H. WIRZ, INC.

1836-1936
CHESTER, PA.

Applicator Pipes:
Pile, Vaginal, Miscellaneous
Household Oil Can Spouts

NEW YORK, N. Y., 30 East 42nd Street
CHICAGO, ILL., 80 East Jackson Blvd.
LOS ANGELES, CAL., 1231 East Seventh Street
MEMPHIS, TENN., Wurzburg Brothers
HAVANA, CUBA, Roberto Ortiz Planos

In the large volume field such as tooth paste and shaving cream, there has been a certain trend towards the larger bottle type of cap in certain instances, and due to the progress in the molded cap field, a variety of colors including the much demanded white has been possible and in active demand.

Another new product packed this year in collapsible tubes which has reached a considerable volume is the cream mascara. Whether or not this will be a staple

Calibrated collapsible tubes permit application or dosage measurement. Courtesy of New England Collapsible Tube Company

and permanent item remains to be seen, but so far the volume has been considerable. There have been several products for the nails also packed in collapsible tubes, nail polishes and nail polish removers. These have been packed in the nasal tip type of tube. The volume of collapsible tubes for samples on the radio has steadily increased. Several companies in 1935 have packed rouge paste in tubes. There has also been an increase in the volume of tubes used for products stopping runs in stockings.

Neck Size and Opening—Actual Size

Neck Size	Diameter of Thread	Actual Opening
No. 8	.220″	1/8″
No. 10	.250″	5/32″
No. 12	.280″	3/16″
No. 14	.330″	7/32″
No. 16	.375″	1/4″
No. 20	.438″	5/16″
No. 28	.563″	7/16″

Ribbon, pinhole or diaphragm (Blind end puncture type) can be furnished as an alternate opening to the plain round type on all neck sizes except in aluminum. Special data supplied on this metal.

Cap Types in Metal or Molded

Regular: Round, Hexagonal — Mushroom: Round, Octagonal

Metal caps are available for all the neck sizes from No. 8 to No. 28 in regular round, hexagonal or octagonal shape. Heavier and more ornamental caps known as medium mushroom or large mushroom are also available in practically all sizes. Nearly all metal caps may be embossed with the customer's selected name, product, trade-mark or monogram at a slight additional cost to cover the original embossing die.

Molded plastic caps may be had in a variety of colors, shapes and sizes. One of the outstanding advantages in connection with molded closures for collapsible tubes is that, if properly selected, the closure does not leak nor do the contents cake or discolor in the mouth of the tube, thus throwing the often fatal strain on the tube's weak spot, the wall at the shoulder. Phenol plastics are those most generally used for caps, cellulose acetate next, and ureas and caseins are used to a limited extent. For information regarding the properties and application of the various plastics, readers are referred to the chapters in this book dealing with the plastics.

Metal or molded plastic caps can be supplied with liners of composition cork, and for special purposes the cork can be backed with tin-foil, special acid or alkali resistant paper and other materials to meet the particular sealing problem. Valve caps forming a tapered plug into a round opening (thus eliminating the use of liners) are also available in various sizes.

A collapsible tube has only one secret—the wall thickness of a collapsible tube, at the shoulder, is the backbone of the article. If this is set, and you designate the opening required, the outside diameter of the cap, the minimum diameter of the tube and the length of the tube, the "Thief of Bagdad" himself would have to give you a good article.

In merchandising with collapsible tubes, the requirements have been that a customer having a trade mark, or certain style of package developed for other lines, requires the same treatment on his tubes. Tubes can be printed in four colors, and in using screen work, creditable results have been obtained with as many as eleven shades. The tubes can be protected to make them resistant to alkali and alcohol, and any printing that can be done on paper can be reproduced on tin in a surprisingly accurate manner. For large runs, a steel plate is used in which the design is hand engraved from solid steel, with a minimum of wear; the impression is very accurate and with little gradation.

In merchandising materials that go into tubes, we have the following advantages: the average public is familiar with them and knows how to handle them; they can be packed for traveling; they are sanitary; more than one person can use a tube.

COLORFUL *Hycoloid* CONTAINERS

"Labeled-when-made"

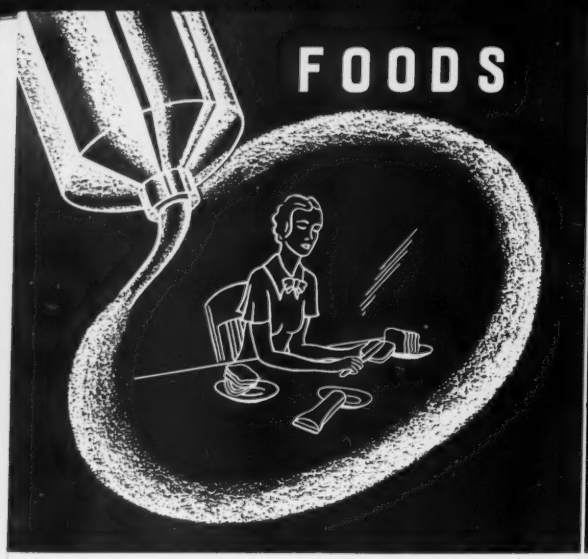
HYCOLOIDS are the ultimate step in package improvement . . . All the color you want for Eye-appeal . . . UNBREAKABLE to provide *better* protection . . . Crystal clear, or opaque, as you select . . . and greater convenience for the ultimate user.

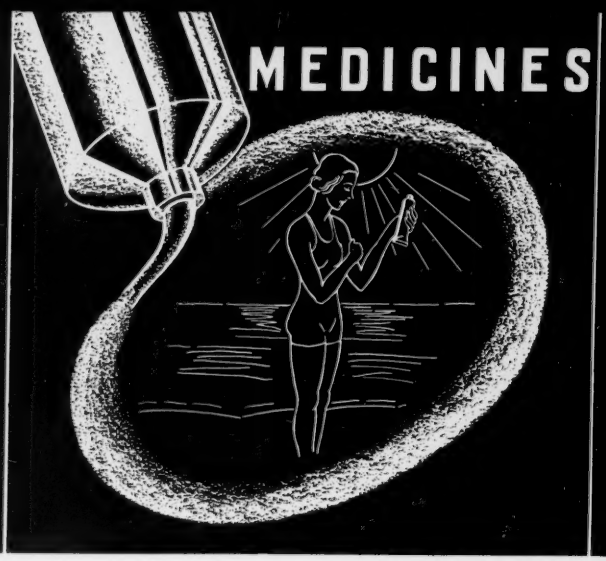
They are unsurpassed for beauty and utility—neither the pocket-or-purse size, nor the larger containers can break—and any type of closure can be used.

If you want to see how smartly your present package can be made write for Samples and information!

HYGIENIC TUBE & CONTAINER CO.

40 AVENUE L - - NEWARK, N. J.





TUBES TAILORED TO DEFINITE DUTIES

You can't regard a collapsible tube in a matter-of-fact manner. The tube that carries liquid glue will be all wrong for shaving cream. Your tube has the exacting duty of carrying a definite product to market. Unless the tube is right for the product, you invite a whole host of unforeseen difficulties. Therefore, SHEFFIELD Processed Tubes are invariably tailored to the product.

SHEFFIELD Processed Tubes are produced in many different alloys and compositions. They are metallurgically engineered to carry your product in prime condition to the consumer. They are uniformly strong and are made to stand the test of time.

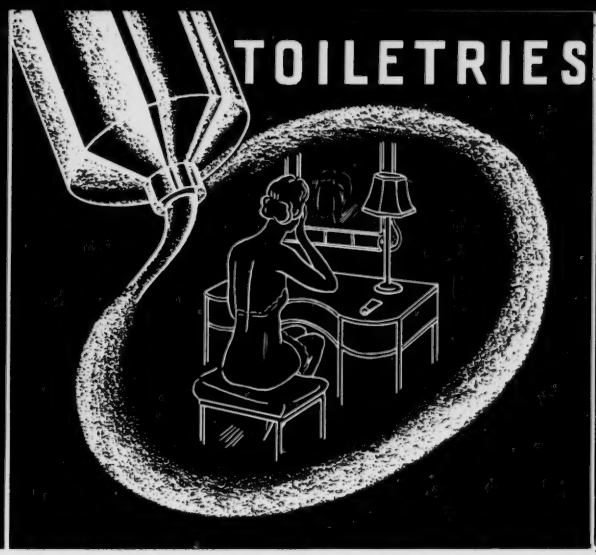
Although we manufacture a variety of standard openings, we can also create a specialty if your product demands it.

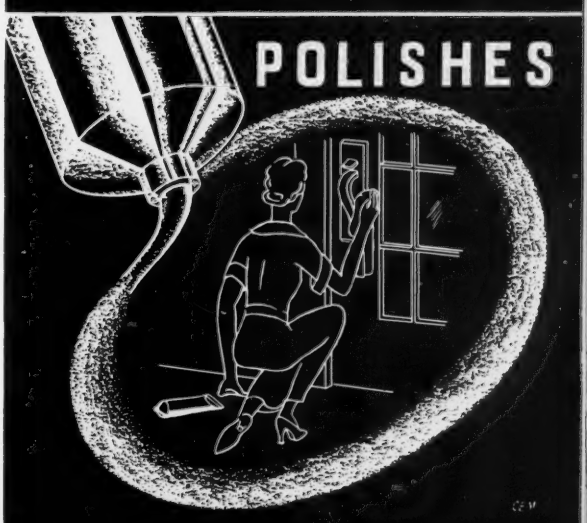
Your most searching inquiry will place no obligation on you. Write us fully. We work cheerfully on all requirements, large or small.

The New England

NEW LONDON
CONNECTICUT

XUM





SHEFFIELD PROCESSED TUBES

SHEFFIELD Processed Tubes maintain a fixed quality standard. They are your assurance against "return goods" nuisance and they always look right from a sales appeal viewpoint.

SHEFFIELD Processed Tubes are sold to you by a responsible organization whose long experience in tube decoration for leading manufacturers is at YOUR SERVICE.

Collapsible Tube Co.

NEWYORK
500 FIFTH AVE.

CHICAGO
3132 SO. CANAL ST.

XUM

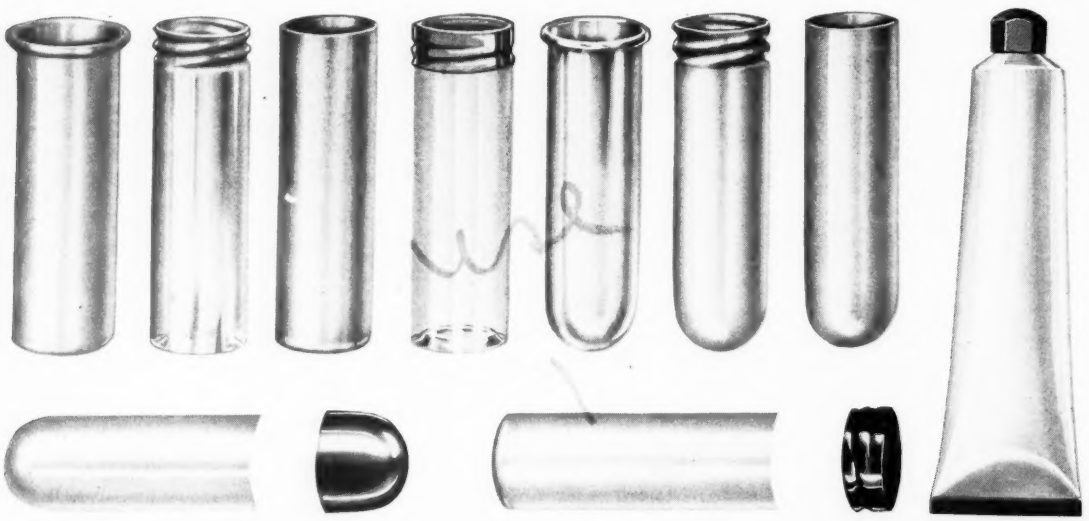
SEAMLESS CELLULOSE CONTAINERS

BY R. H. DAVIS

SEAMLESS CELLULOSE CONTAINERS have been available for several years, but only recently have become a prominent factor in packaging. This is due primarily to the fact that their unusual characteristics and qualities have not heretofore been thoroughly appreciated. During the past two or three years, however, the increase in the use of seamless cellulose containers has been quite remarkable. Containers of this type are readily distinguished because they are formed of cellulosic material in such a manner that the sides and bottom are integral, eliminating all seams or joints.

"Puffer tubes" have been developed for the packaging and dispensing of powders. Taking advantage of the fact that the side walls of these containers are both flexible and resilient, when properly constructed, they produce a "bellows" action which puffs the powder through an orifice, which makes it ideal for dispensing many powders. Such tubes are being used successfully for face powder, dental powder, medicinal powders, insect powders and the like.

Seamless cellulose containers weigh only a small fraction of their counterpart in glass. Because of their



Types of seamless cellulose derivative containers, with and without threads for closures. Right: a "Puffer" tube

For most packaging purposes cellulose nitrate is the most satisfactory. When desired, however, they can be produced from so called "non-inflammable" cellulose acetate. The majority of the cellulose containers are produced in clear transparent material. They are also available in transparent and opaque colors.

Interest in seamless cellulose containers is usually created by one or more of their unusual features—non-shatterability, appearance and lightness of weight. The fact that they are practically unbreakable makes them especially well suited for packaging products which are usually carried in the purse or pocket. In this group are included many pharmaceutical and cosmetic preparations. This unbreakable feature also recommends these containers for products such as styptic pencils and other products used in the bathroom or kitchen where breakage of containers creates unusual hazards.

unbreakable characteristics, they can be packed in smaller and lighter cartons and shipping cases. This permits a considerable saving in packing costs. The total savings which may be effected by the use of this type of container has been responsible for its use in many instances. These weight saving characteristics become especially important when packaging goods for export shipment and distribution.

The beautiful colors, which one associates with celluloid and cellulose lacquers, are obtainable in these containers. The colors have a depth and quality which are difficult to equal. Many striking and beautiful effects are obtained by combining the lustrous base colors with effective printed decoration in contrasting colors. This printing eliminates the necessity of applying labels, thereby creating an appreciable saving. It also usually results in a better looking package.

Wheeling Collapsible Tubes

IN THE twenty years that our company has been making collapsible tubes, we have made millions of them—different sizes, different shapes, different colors—for different products.

Our mechanics are experts in making tubes. They have watched the industry from its inception and have constantly improved their methods of operation. They have that greatest of all types of learning—experience.

When the largest proprietary medicine and cosmetic manufacturers in the nation, and in the world, turn to Wheeling for collapsible tubes, they are availing themselves of the services of experts who have every type of modern machinery to aid them.

You, too, should avail yourselves of Wheeling's services. You should be one of the myriad who package their products in Wheeling Collapsible Tubes.

There are no finer tubes than Wheeling Tubes. There is no tube problem too difficult for Wheeling technicians. Wheeling is among the leaders in the industry and Wheeling Tubes are among the leaders in their field.

We solicit your inquiry and hope you will take advanage of our modern plant operated by skilled engineers and workman. The millions of tubes made by Wheeling speak for their own perfection.

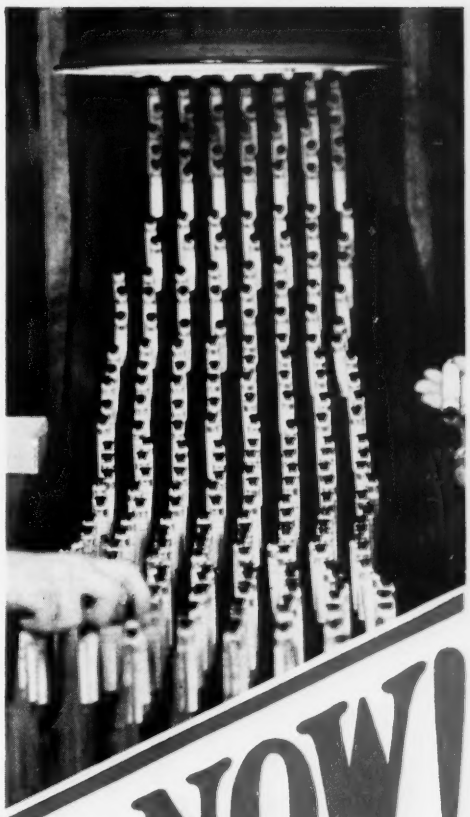
WHEELING

STAMPING COMPANY

Wheeling, W. Va.

B. E. STOVER, Sales Manager
Wheeling, W. Va.

GEO. K. DILLER, Eastern Rep.
90 W. Broadway
New York, N. Y.



And NOW!

A PLASTIC VIAL

For Tablets, Powders and Liquids

WHEELING makes not only plastic caps for tubes and bottles but has developed a unique plastic vial for powders, tablets and liquids.

The vial adapts itself admirably to counter displays—and its neatness and unusual form will grace either milady's purse or the pocket of the business man.

It is light and non-fragile. It hides its contents from prying eyes. It can be furnished with a plain cap, or a well cap which will retain an applicator. Manufacturers who take advantage of this new vial for packaging their tablets or liquid preparations are bound to increase old markets and open new ones.

Write for a sample and prices. We also invite your inquiry on plastic caps and other molded articles.

WHEELING

Plastic Caps

The more common uses of seamless cellulose containers include the packaging of the following:

Pharmaceutical products	Dental silk
Cosmetics	Needles
Styptic pencils	Colloids
Mercuric ointments	Instrument parts
Oil samples	

Special applications of this seamless construction cover a varied field. For example, it has practically replaced glass in the construction of feminine hygiene applicators. Over one hundred insurance companies use these containers for the transportation of their medical specimens. In the form of measuring cups they are used for many products ranging from hair dye to flavoring extracts. New applications for these containers are being constantly developed, and it can be expected that in their present as well as in improved forms, seamless cellulose containers will prove of increasing importance in the packaging field.

APPLICATOR TUBES AND SPECIALTIES

IN ADDITION to the standard types of collapsible metal tubes, detailed in a previous article, there are available for various purposes certain specialties some of which may be applied separately to tubes, and others that are integral with them. Among these are the following:

Eye tip: Eye tip tubes are often called opthalmic tubes and are used for eye preparations. These are available in tin or lead, and tin tubes are recommended for use if the preparation is to be used on or near the eye. Lead is only suitable for light lubricants or similar use in conjunction with eye tip tubes.

Nasal tip: Nasal tip tubes are made in different types and are supplied in tin or lead, with tin tubes suitable for nasal jellies, ointments and any other preparation used on or in the human body, and with lead nasal tip tubes supplied for oils, greases, rubber cements and other commercial purposes.

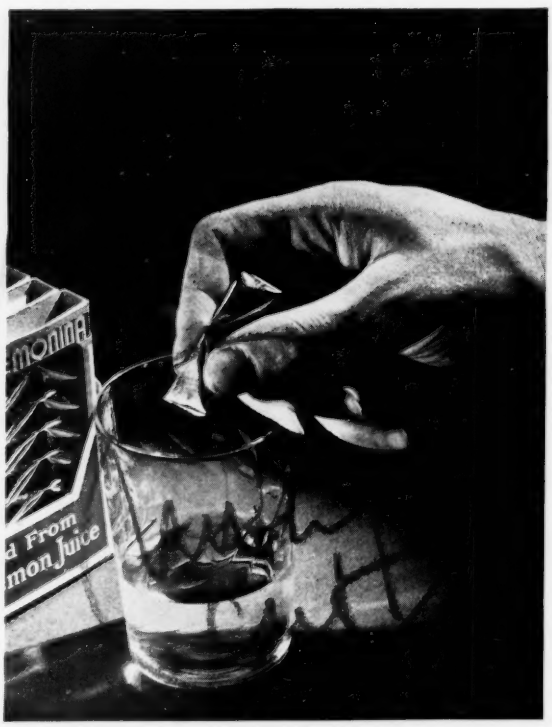
Screw eye: Screw eye tubes are furnished in tin, lead or aluminum and are suitable for rubber cements, pyroxylin cement, adhesives of all kinds and for similar commercial uses.

Plug, pin, etc.: Special tubes are made with heavy conical shaped plugs as a closure, and also with pins for insertion in the neck. These types are used chiefly with adhesives, library pastes, and similar products.

Pile pipes: Pile pipes are available in pure tin or aluminum in sizes which fit standard necks and are obtainable with either side or end openings or both. Other special types of pile pipes, vaginal pipes and applicators are also available.

Applicator tubes: A new development this year is a self-contained applicator tube which is especially suited for pile ointments and combines the separate tube and pipe in one package. In this there is no separate applicator to become lost; there is nothing to attach and the container is ready for instant use, and a long slip cap covers the applicator, keeping it free from dust and dirt.

Shells: Of recent development are tin shells, made in various sizes, which are used mainly as containers for suppositories but are equally applicable to other products. Made of aluminum, similar shells have been successfully used, as in the case of the G. Washington Coffee packages which were introduced during the last year. Also included in this group are thin aluminum tubes which, sealed at either end, have been successfully used for drink powders. The development, it is believed, offers considerable promise for use with certain powders for which convenience in use is desirable.



Collapsible metal shells sealed at either end, as used to contain powders; are adaptable to various products

In all of the foregoing, two factors are prominent, namely, convenience and the adaptability of the material used to the product applied or utilized.

PEERLESS TUBES

Preserve and Outlast Their Contents

Peerless Tubes are the result of long experience in creating collapsible metal tubes for many different products. They are produced in a variety of compositions—let us tell you which one will be exactly right for your product.

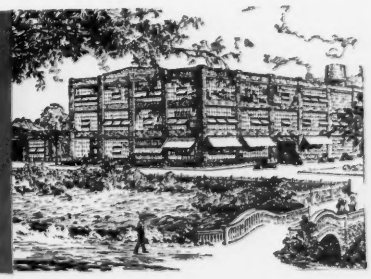
Peerless Tubes also have sales appeal because we know how to add proper decoration and lithography to good all-around construction. This is your assurance against "return goods." Also consider our many years' experience, our business responsibility, our well-rounded organization, our list of prominent users.

Our quality standards have helped simplify important packaging problems for many tube users—why not you? Our instructive and helpful catalog will be mailed at your request.

PEERLESS TUBE COMPANY

58-76 Locust Ave. **Bloomfield, N. J.**

J. E. McLaughlin, Central Western Representative, Cincinnati, Ohio



TYPES AND USES OF PACKAGE GADGETS

WHAT are package gadgets? The time when the package itself was somewhat of a gadget—something not 100 per cent necessary but decidedly convenient—has long passed. Today, the protective, display, utility and shipping conveniences of the average package are fully recognized by all industry as essential for any merchandise. Yet the gadget, the clever little added feature, has a definite place in packaging. Its novelty, while it is still new, adds a definite sales impetus. Its utility, if it is properly planned, adds still another distinguishing feature. Its exclusiveness, if such is attainable, even in the limited field of the particular type of merchandise being sold, encourages both first sales and re-sales and serves, like a well-known trade mark, to make identification easier.

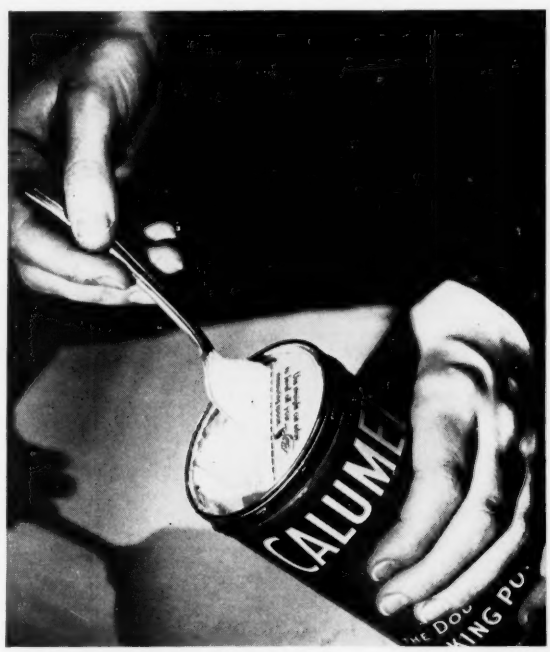
Combining a plastic closure with a felt applicator pad provides for convenient use of a cleaning fluid

It is difficult to define the package gadget as such. There are literally thousands of them available—and more being invented every minute—not all of them always practical from a utility or cost point of view. Yet an approach to a definition may be gained by considering package gadgets in their various "use" or "purpose" classifications. These are five in number: Opening convenience, pouring or dispensing convenience, re-use convenience, tamperproofing and display.

To list or illustrate any large number or inclusive group of package gadgets would not only be impossible but would likewise be a procedure of doubtful usefulness. The manufacturer or designer planning a package will want, rather, to know in a general way what *types* of gadgets are available so that he may develop his package with a view towards using some *adaptation* of one of the generally available groups, fitting it and changing it to meet his needs. This is not to imply that gadgets are available only in specially made forms. Many may be had as stock items—usually in conjunction with a standard type of container package. For instance, most fibre can manufacturers offer a large variety of pouring closures—from the simple perforated top to the patented types of pouring spout. Similarly, most jar and bottle manufacturers and collapsible tube makers can provide any of hundreds of types of closure and applicator gadgets as standard parts of packages.

But in selecting a gadget, whether stock, semi-stock or specially made, the manufacturer must be guided by certain general rules. Let him first of all consider, not novelty but workability. Above all, it is important that his gadget be of a type that will outlast the product in use, that will never jam or clog or break away or counterbalance its advantages with inconveniences in packing, shipping, selling or use.

Next, let him look to costs. While any gadget will tend to increase packaging costs, it is essential that this increase in costs be overbalanced by an increase in appeal that will more than justify itself in sales.



An inner perforated paper seal, cut away, enables a leveled teaspoonful of baking powder to be measured

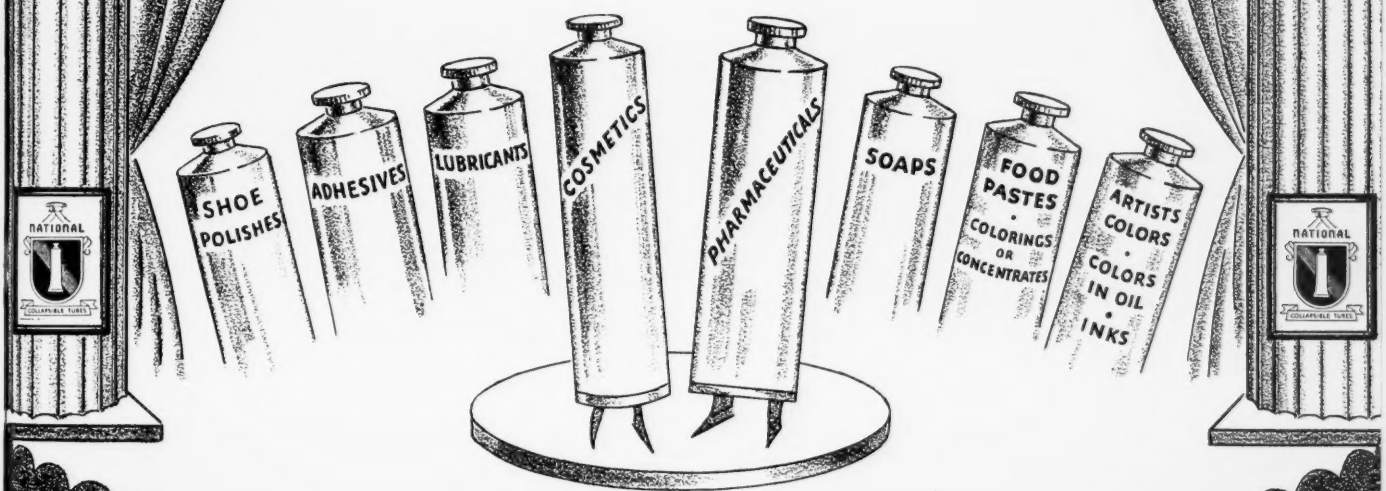
It will be well also to look at the proposed gadget from the point of view of practicability on the packaging line. Will it work easily in a filling or cartoning

All the World's a Stage for NATIONAL TUBES

The Stars in the Drama of Retailing are those packages which lay claim proudly to the customers' sense of values.

Note the uses to which today's National Tubes can be put

National Tubes enclose precious brands whose names are household words . . Why not YOURS?



NATIONAL COLLAPSIBLE TUBE CO.

PIONEERS IN NON-LOSEABLE CAPPING · PROVIDENCE, R. I.

N. Y. Office: H. R. M. Gordon, 331 Madison Ave., Tel. Murray Hill 2-0339
Chicago: C. J. Eichman Co., 355 W. Ontario St., Tel. Superior 7939
St. Louis: W. W. Hoernlein, 2105 Pine St., Tel. Central 1261
REPRESENTATIVES IN OTHER PRINCIPAL CITIES

machine? Will it require extra protective packing? Will it slow up production? Will it cost much or little to change things to permit of its use? Only if these questions can be satisfactorily answered, can a gadget be considered practical.

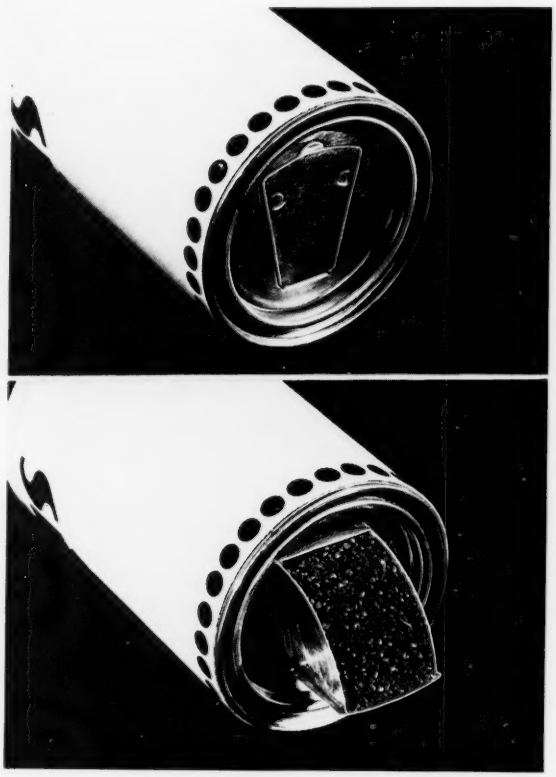
Finally, let the manufacturer consider well the explaining of the device to the public. The ideal gadget

A molded slide cover, easily opened, permits the removal of one tablet at a time from a molded container

is one that is self-explanatory—one that people use *naturally* in the proper way. Next to this, the gadget found most likely to succeed will be one of the type that needs but a word or two of explanation. A typical instance is the pouring spout that is indicated on the package with the succinct message, "lift here" or the top-lifter for the shoe polish container which needs but a "press here" to indicate both its manner of use and its added convenience. Yet some gadgets will require further explanation. It is here essential that this explanation be printed fully on the package, preferably as near as possible to the gadget itself (or even upon it) and that such explanation be as carefully worded and as explicit as is humanly possible. If, in addition, the copy can be made to point out and emphasize the advantages which the gadget affords, a definite added sales appeal will be insured.

Returning to a consideration of gadgets by their use-classifications, consider each from the viewpoint of the criteria set forth above.

Gadgets affording opening convenience are perhaps the most numerous group and the group tends to grow with each advance in securing a tighter, and hence more protective, seal on a package. Some develop as natural parts of a seal or closure, as for instance the tabs now so common on cellulose wrappings and the paper wraps of individually packed sugar loaves. These are almost ideal in the sense that they offer extra convenience with practically no extra cost, since the tab is part of the package wrap itself. Others are essential parts of a new closure invention, such as, for instance, the knife opening device developed to make practical the vacuum seal for glass jars. Since the use of vacuum-sealed coffee jars requires an absolutely air tight closure until use begins, while convenience in use demands ease of opening and closing and a permanent, non-damaged-in-opening closure, the forming of the metal screw cap in such a way that a knife can be inserted as a lever proved to be the main key to the adaptation of the entire packaging method to glass jars. Still others may be developed as accessories to the package, though here cost and package difficulties may make them impractical. A typical practical package gadget is the device used, almost universally, in pouring oil from cans into motor crankcases. Here a simple combination of pouring-



A hinged metal pouring spout not only protects the contents of the container but is also self-measuring

spout and metal-cutting blades is used to provide instant opening of a sealed can, to afford clean, easy and speedy pouring and to permanently damage the can so that it cannot be re-used for bootlegging purposes. Any device which accomplishes so many purposes so easily, can well afford a costliness which would

TUBES
by
BOND
Faithful reproduction of colors . . . clean, clear flawless printing . . . strict adherence to construction details . . . these are the elements in which Bond excels. These are the reasons for Bond's reputation for good tubes.
BOND MANUFACTURING CORPORATION, INC.
Manufacturers of CORK-TEX DISCS — BOND CROWNS — CORK SPECIALTIES
Wilmington, Delaware
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CHICAGO
Arthur LaQueur
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HArrison 3229
DETROIT
J. L. Matthieu's Sons
239 Chalmers Ave.
LEnox 8499
BOSTON
A. P. Vining
137 Kneeland St.
Liberty 3094

A molded cap provides a secondary closure for the bottle and a convenient measure for its contents

generally prove to be impractical for most gadgets.

Pouring or dispensing conveniences are likewise numerous and varied, ranging from the simple perforated top of a pouring powder fibre-can to such complicated inventions as the self measuring closure which pours a defined and controllable number of drops from a medicine or chemical container. In planning such a gadget care must be taken to see that, in most cases, the product is not left open to the elements when once the gadget is put into use. Thus the familiar aluminum pouring spout, used on salt containers, must be of a type that hinges in such a way as to afford a reasonably secure closure when not in use.

Almost infinite variations of this type of gadget have been developed to solve definite needs of differing products. To mention just a few, not as typical or representative of the group but rather as jobs-well-done in their particular categories and hence suggestive of similar ideas to other manufacturers: The Daisy Spot Remover, a device that combines a plastic closure with a felt applicator pad for use on cleaning fluid jars; the Camelo Cleaning Fluid brush, a combination of brush, valve and closure for a similar product which—though far higher in cost—possesses advantages of re-use and novelty that make it practical as a gadget; the Calumet spoon leveler, a simple variation of the inner paper seal found in so many powder-holding tin cans, whereby a marked line permits the user to cut away only two-thirds of the heavy paper seal and leave a straight-edge for removing all excess baking powder before the leveled teaspoon is removed from the can; and the self dispensing fountain package developed for flexible transparent containers, which permits of finger pressure dispensing through a tiny, spray-forming perforation in a package differing—because it is transparent—from the usual spraying container and hence particularly applicable to such boudoir items as perfumes and hair tonics, lotions and toilet-waters. A more complicated type of closure is that adapted by the Mosby Medicine Company for a mouth wash. Here the liquid is placed in the bottle under pressure and a valve, similar in principle to that of a carbonated water syphon used to dispense a spray. Push button types achieving similar effects have recently been adapted by both the Sterling Products Co. for its Danderine Hair Tonic and Hinds for Honey and Almond Cream. The latter dispenses drops rather than a spray.

In this field cost seems to be less of a factor than convenience in use and, often, the gadget is sold as a permanent accessory to be bought only with the first bottle or package and then used with refill packages.

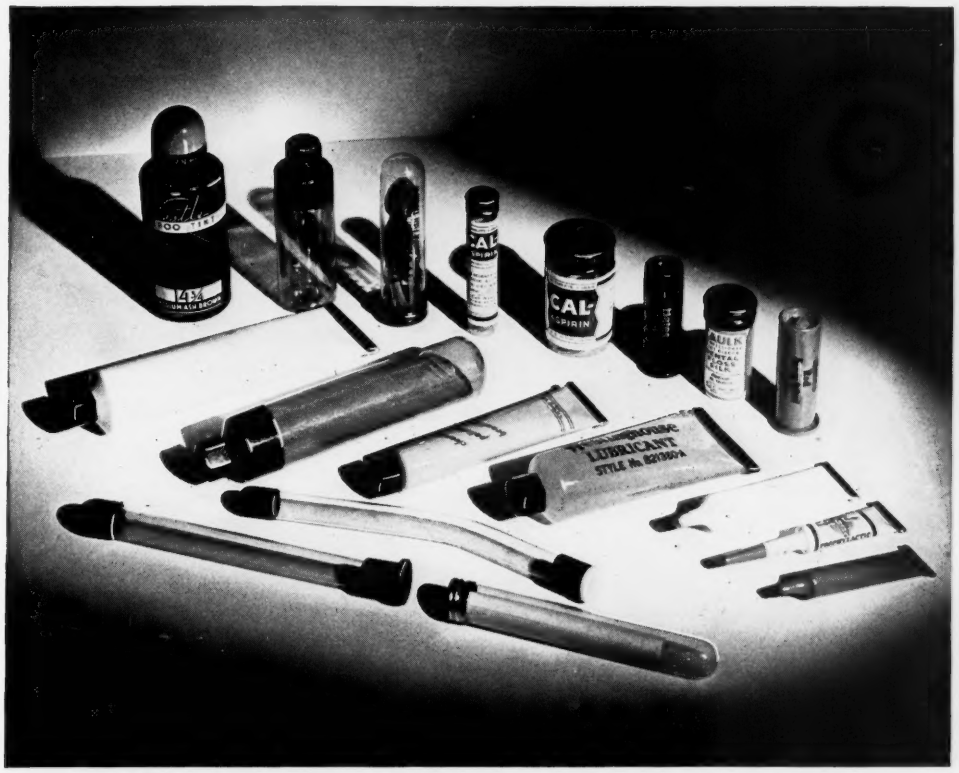
Another type of package gadget falling under the grouping of dispensing convenience is the measuring device. Among the simplest and most easily used of these is the marked and graduated collapsible tube developed by New England Collapsible Tube Company for Jellak Vaginal Jelly and also used for other products. The user simply compresses the tube in the usual manner, expelling the contents of a single, marked section at a time. Measuring caps or "jiggers" have become very common accessories in the liquor field. These add no cost or packaging problems beyond that of planning for a very deep rather than a shallow closure. In all other respects they are simply typical closures, usually of the molded plastic type.

Re-use convenience and its counterpart, tamperproofing, have recently received much attention from indus-

Essentially a closure, the recessed cap provides for easy opening and protective tightening on food jars

Consider

LUSTEROID



for modern packaging

LUSTEROID means everything from the raw product to the high quality of the smooth, grainless, finished surface . . . to the details of design and manufacture . . . to the transparent or opaque colors . . . to the mixing of ink . . . to the printing . . . to the finished product —a sparkling, strong, light, unbreakable, cylindrical container brimful of merchandising aids.

When competition for consumer buying is at stake, use LUSTEROID. It means additional stock turn-over for manufacturer, wholesaler and retailer and makes your package more desirable—in appearance, in utility and in effectiveness. Please feel free to consult with us. There's no obligation. We'll be glad to assist you in developing a package with sales appeal.

Formerly Lusteroid Division of
THE SILLCOCKS-MILLER COMPANY
10 PARKER AVENUE, WEST
SOUTH ORANGE, NEW JERSEY

LUSTEROID
CONTAINER COMPANY, INC.

A molded cap provides a secondary closure for the bottle and a convenient measure for its contents

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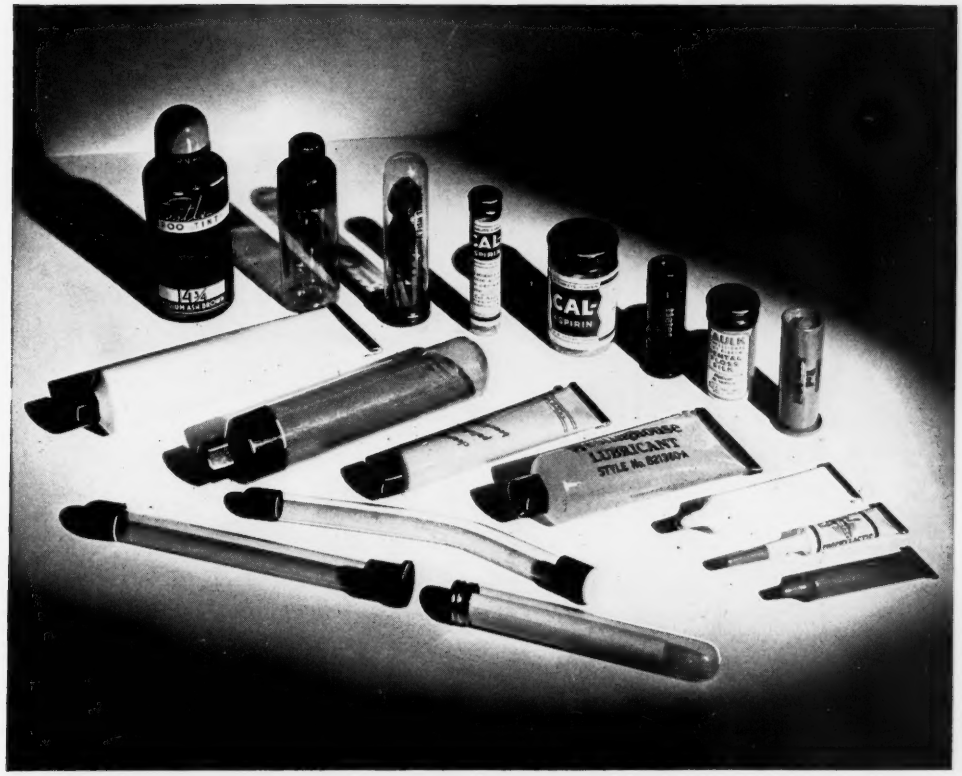

for modern packaging

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Formerly Lusteroid Division of
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10 PARKER AVENUE, WEST
SOUTH ORANGE, NEW JERSEY

LUSTEROID
CONTAINER COMPANY, INC.

try, largely as a result of the repeal of prohibition. A number of types of metal and molded closures have been developed which break or damage themselves upon opening, thus making evident any attempt at tampering. Most of these are self-destroying and hence require an

Radio tubes in these cartons may be tested and demonstrated but are secure from unnecessary handling

under-closure for re-use sealing. Some however, retain their closure function after they have been damaged—in part—so as to prove opening.

In the drug field a number of types of packaging gadgets have been developed to permit of the re-use of tablet containers and the dispensing of a single tablet at a time. Thus Squibb's have used a slide-top and specially shaped tin bottom for dispensing a single aspirin tablet at a time. Merck's have provided saccharin users with a handy molded carrying package with a molded slide cover that opens at the flip of the thumb of the package holding hand, permitting the user to draw a single tablet in the other hand for immediate use. Mosby's has used a molded perforated panel as a slide within a paper sleeve to dispense single laxative tablets at a time without exposing the remaining tablets to pocket dust or dirt. A number of manufacturers have adapted a transparent cellulose package gadget, developed under the name Sealtite Uni-wrap by the Ivers-Lee Company, which packages individual tablets or capsules in air-tight heat-sealed cellulose in such a way that only a single tablet need be torn off or used at a time. In a completely different type of package, Ford has added both use and re-use convenience to its Touch-up Black auto paint by combining the brush with the metal twist-closure. In use, all dripping back towards the handle is effectively stopped by the closure, acting as a shield. In re-use, the brush is found soft and ready for use because it remains tightly sealed within the jar when not in use. Another variation of the tamperproofing principle is found in the carton used for Bond radio tubes. Here the problem demanded that the tube be subject to demonstration and testing but not to extended use before sale. The solution was found in a gadget-package which permits the prongs of the tube to extend from

The dispenser type closure, as an added package feature, affords a more convenient use of the product

the carton but does not permit of removing the entire tube without tearing the carton and thus destroying its sales value to the customer.

A final word for the manufacturer contemplating using a gadget. Never use one simply for its own sake. Make it add a plus value to your package that will more than compensate—in sales—for its extra cost and the time taken to develop it.

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PACKAGING PROPERTIES OF PLASTIC MATERIALS

BY E. F. LOUGEE

PLASTICS for packaging applications have kept pretty well in step with general progress in the field and their acceptance is much greater than it was a year ago. Merchandising demands for better physical appearance of packaged goods has increased the realization that an "expensive appearance," so desirable in a market with rising prices, is easily acquired through the use of well chosen plastics at trifling extra costs. Sometimes the costs are no more and occasionally they are less depending, of course, upon the nature of the packaging material which plastics are chosen to replace.

Apace with this improved appearance in packaging, formulas for entirely new plastic molding compounds have been created with individual properties suitable to specific applications. Colors have been refined to such a degree that there is practically an unlimited field from which to select those most suitable to the particular problem at hand. Tactile qualities of plastic materials make them especially desirable for packaging where much handling occurs. Their smooth lustrous-surface gives the package a "feel" of intrinsic worth and quality which is not lessened by constant handling in the shops or at home.

Complete frankness between product manufacturers who would use plastics to advantage in their packaging and manufacturers who are called upon to supply plastic materials and molders who are to fabricate them, is essential for the best results. It must be remembered that plastics are of chemical composition, as are most of the items they are required to package. Therefore, the material chosen for each application should be in complete chemical harmony with the product it is to protect and sell. This axiom applies not alone to plastics, but to every other packaging material. However, older materials are better understood than plastics. No manufacturer would consider packaging potato chips, for instance, in a tissue bag without proper pre-treatment of the tissue to prevent it from absorbing grease

Molded plastic containers are produced in various shapes, sizes and styles and offer protection, durability and reuse. As may be seen from the few examples, shown, raised decoration, metal appliques, partitions and other effects may be attained. The range of color obtainable in three general groups of molded plastics offers an advantageous selection

Phenolic Plastics — Cast Resins — Urea Plastics — Cellulose Acetate — Stock Plastic Boxes — Molded Displays — Mold Costs

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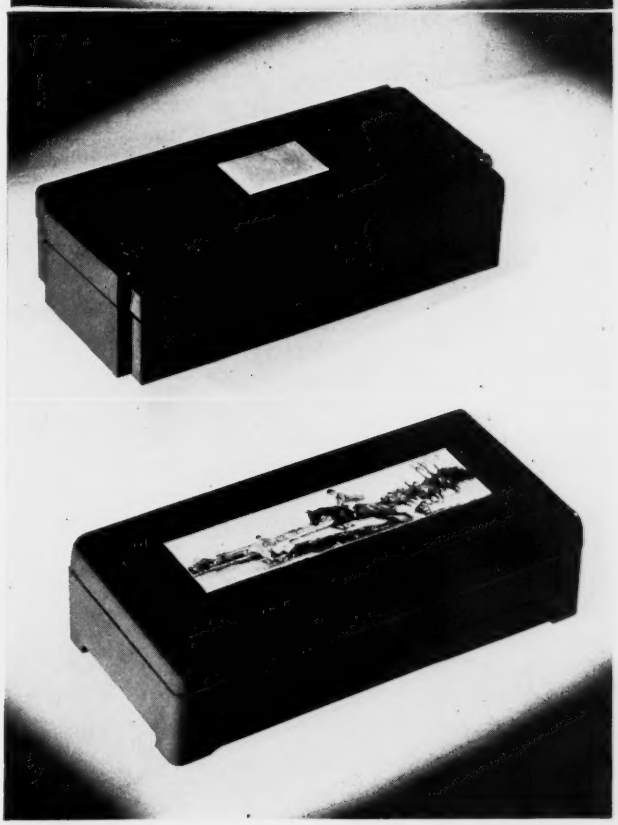
Speed Sales



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Auburn is one of the largest of custom molders, with complete facilities for all types of work. In addition, we have a constant backlog of business in molded buttons that keeps our plant uniformly busy and our overhead costs always moderate.

60 YEARS OF EXPERIENCE

Our record of diversified experience covers nearly 60 years. Naturally that gives us a thorough grasp of all kinds of plastic problems. Tell us your story—let us help YOU as we are now helping many others.

AUBURN

BUTTON WORKS, Inc.

ESTABLISHED 1876

AUBURN NEW YORK

from its contents. Nor would he package an aqua-base product in a container of iron or tin without first protecting its interior with a non-ferrous lining of some sort to prevent corrosion and rusting. Yet, too many manufacturers consider the multitude of plastic compositions all in one breath, and, in doing so, are likely to choose a material unsuitable to their use. This is no condemnation of plastics, nor can it be blamed entirely upon the packer who is uninformed. Thousands of containers and closures of plastic materials are giving continual satisfaction, and sales of many products have been materially increased through their intelligent use. I bring up this point because, during the past few months, I have been repeatedly asked such questions as: "What is the best plastic material from which to make boxes?" "What is the best material from which to make tubes?" And when I begin to ask questions about the size and shape of the boxes in mind, and about the use of the boxes, my inquirers appear reluctant to give me any information. They seem to think I am prying into their affairs. Yet to give them any sort of an intelligent answer, all the facts should be presented before any material can be recommended. Just recently, a representative from a world-wide organization came to ask what would be the best material to use in making small syringes. He refused flatly to tell me the nature of the solution to be used in them except that it would be used hot. How hot, he didn't seem to know. So long as this condition exists, manufacturers will continue to make mistakes and there will be no one but themselves to blame.

There is a sufficiently wide variety of plastic compositions available at the present time to satisfy almost any packaging demand. Manufacturers of plastic materials, molders, and fabricators are forever alert to improve properties and technique. Research departments are available, usually without cost to a prospective user, to work out any uncommon problems if the answer is not already at hand. Complete frankness is essential if satisfaction is to be obtained.

In this group are shown several types of molded plastic closures, made from different compounds

For the general purpose of identification, the four major groups of plastics are phenol-formaldehyde molding compounds; urea-formaldehyde molding compounds; cellulose acetate for both molding and stamping; and phenol-formaldehyde cast resins.

Phenolic Plastics

Phenolic molding compounds are of chemical foundation, delivered to molders in drums, in the form of powder. This powder is preformed, usually, into "briquets" resembling large aspirin tablets which are

PACKAGE YOUR PRODUCT IN PLASTICS

CHOOSE AN AMERICAN RECORD CONTAINER

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BAKELITE • DUREZ • DURITE • RESINOX • URALITE • BEETLE • PLASKON • UNYTE • LACANITE • LUMARITH • TENITE

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Molded Products Division

PLANTS: SCRANTON, PA. • BRIDGEPORT, CONN. •• EXECUTIVE AND SALES OFFICES: 1776 BROADWAY, NEW YORK

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"Packages that last" are first choice of the majority group of buyers who consider the extra value offered by re-use possibilities. A varied selection of shapes, sizes and colors in plastic molded American Record stock boxes solves many packaging problems . . . and the more intricate and individual packaging needs are adequately supplied by complete custom molding service.

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American Record molding service also meets all requirements for plastic premium articles, advertising novelties, display stands, complete products and parts.

Molded plastic boxes for razors have replaced former containers of other materials because of durability and improved appearance. Some of these incorporate partitions for the various items included in the sets

placed in a steel mold which has been machined to the exact shape of the object to be molded and chromium lined to produce a glass-like surface. The mold is then placed in a press where from 2000 to 10,000 lbs. per sq. in. can be applied under heat of 280 to 320 deg. F. This causes the powder to plasticize or flow into every nook and cranny of the mold which confines it. As the heat continues from thirty seconds to three or four minutes, depending upon the size of the piece being molded, the plastic material cures—or bakes. When removed from the mold, the piece is unaffected by further heat or cold, is resistant to acids and weak alkalis, will not burn, and retains indefinitely the lustrous surface which it acquires from the polished surface of the mold. Thermosetting plastics (those unaffected by heat after molding) are inert and rigid. Water absorption of certain types is almost nil. They are insulative against heat and cold, never becoming cold to the touch even in coldest weather.

Another type of molded plastic razor box. Here a distinctive appearance is obtained by a variation in the shape of the container from that customarily used

The foregoing paragraph may appear elemental to some readers but I do not think it is out of place in this catalog because there are many manufacturers yet to become acquainted with these new materials for packaging and the ABC fundamentals will contribute to their understanding of the advantages and limitations of the various groups. To have some understanding, however elemental, of the processes by which containers and closures are made is bound to create a visualization of the potential possibilities of practical designs and the wide range of usefulness these plastic materials present to the packaging field.

Double purpose boxes of molded plastics have aided sales, particularly during the holiday season, of garters and similar merchandise. Such containers may be had in special designs, as shown, or in a wide assortment of stock boxes

In order to withstand repeated heatings and tremendous pressures without undergoing the least atom of physical change, molds must be made of the finest grades of hardened steel. Machining molds is a long and tedious operation requiring days, often weeks, of skilled labor to tool and hob the desired shape with its intricacies of design and lettering into a solid block of hard metal. Accuracy to the thousandth of an inch is imperative if tolerances of the molded parts are to be correct when finished. Allowances for every possible shrinkage of the material and the molded part must be painstakingly figured in advance. Alterations are costly, if not impossible, and should be avoided. But when a mold is completed, it is ready for indefinite production. It should be remembered, too, that when finished parts come from the mold, they are really finished and the finish is there to stay. It is but a moment's job to remove the fins and there is no polishing, spraying, enameling, baking, and such, which adds con-

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will never dent,

DE LUXE BOXES—Pleasing in design and with a definite quality appearance, this stock molded box is a permanent container. Women like the sleek finish that won't dull or chip. It would make an appealing package for a mani-

This outstanding Parker Pen display is molded of lustrous black Bakelite. The center tray is of translucent Plaskon, permitting the light behind it to shine through the laminated Vacumatic Pen barrels, and thus demonstrate the pen's selling features.

SELL WITH MOLDED PLASTICS

More and more alert merchandisers each year are using the proven selling appeal of molded plastics to spur sales and profits.

Containers of molded plastics are being used to add eye appeal; to increase the unit of sale; and to provide that extra value—after use.

Displays of molded plastics provide a rich setting which draws attention and visualizes the selling features of the product. The lasting quality of their lustrous finish insures them a permanent place on the dealer's counter.

Whether your problem is one of packaging or of display, this organization can help you in its solution. Here you will find merchandising knowledge to help you in the effective development of the idea; engineering knowledge to produce the article correctly and economically; and production facilities to give you the quantities you want when you want them.

Even though your merchandising plans have not yet taken definite form, you are invited to submit your problem so that we may work closely with you toward its solution.

CHICAGO MOLDED PRODUCTS CORP.

2154 Walnut Street **Chicago, Illinois.**

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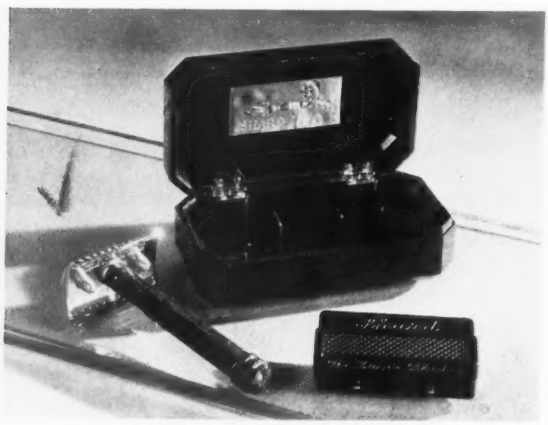

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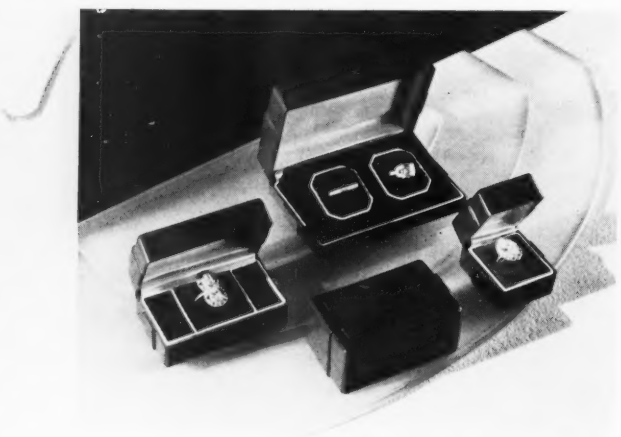
While all plastics possess features of interest to those engaged in packaging goods, different types of the material have definite characteristics which should be considered. Under each group of materials there are many different types, each with its individual properties and advantages. There are odorless materials, materials that will not bleed or bleach, materials that have greater resistance to acids and mild alkalis, materials

Various tops of sprinkler caps, made of molded plastics, are meeting with wide acceptance. Here is one in which two separate molded caps give a tight yet easily released seal. The double device permits both sprinkling and pouring of the product although a standard threaded bottle is used. Repeated series of triple knurlings on both caps permit easy turning even when hands are soapy

siderably to the cost of finishing other materials. When these factors are taken thoroughly into consideration with their relationship to finished costs, molded products often save the entire cost of the original molds by reducing hand finishing labor costs where other materials are concerned.

There are attempts on foot to work out new methods of making molds which will undoubtedly result in eventual savings. Experimental molds are being cast of beryllium copper which reduces their cost to less than half that of steel molds, but absolute control of the metal is indefinite and close tolerances are not yet possible. Extrusion molding, which has progressed rapidly in Germany, promises much in the reduction of mold costs since plastic materials can be extruded into molds of less expensive materials than hardened steel. Its use in this country has not become general although there are a few molders who have accomplished some rather remarkable things with this method.



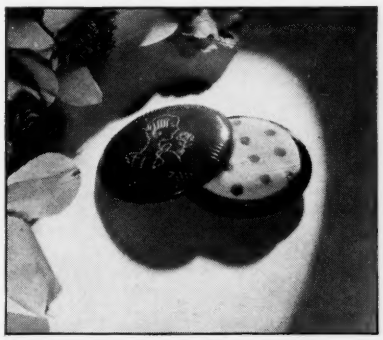
New molded plastic jewel cases. A special construction provides a smooth outside surface with no objectionable projections. No hasps are necessary for opening and closing of the case

in which food and facial creams can be safely packed, and other types of similar properties.

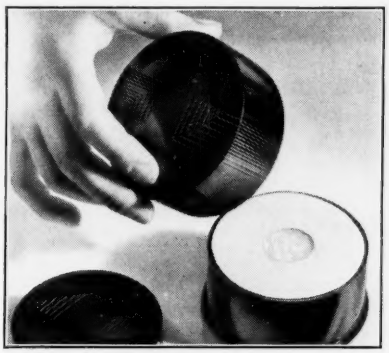
It is the versatility of these materials that give promise of an extended use of plastics in the packaging field in the future. Designers and manufacturers intending to use a plastic package of any sort should work closely with molders and material suppliers for it is frequently possible to make a slight change, either in design or assembly of the package, which will result in substantial savings, both in the construction of the mold and in the finished piece. This close cooperation also insures getting the right type of plastic material for each requirement that may be desired.

Molding materials were first introduced into the packaging field through closures, and acceptance by consumers was instantaneous and phenomenal. Perhaps no single improvement in packaging has met with more favorable response, nor contributed more obviously toward improved appearance than plastic closures. The benefits are actually greater than they appear on the

FOR EVERY TYPE OF PRODUCT



COMPACTS—What better material for a compact than sleek, lustrous Durez? Its finish will never scratch, dent or peel. It's light in weight, pleasant to the touch. This one contains a generous portion of loose powder, and is almost as flat as a modern watch.



POWDER BOX—A sleek, lustrous Durez powder box is sift-proof and reduces odor loss found in packages made of more porous materials. Women like it better than conventional boxes because it is *permanently* attractive.

there's a profitable use for DUREZ!

As the photographs on this page show, there is practically no limit to the number of applications of Durez to packaging. Durez packages have a smooth, "quality" look which appeals to people . . . which makes the product itself seem more desirable. In short . . . they *sell.*

Durez molded pieces have a shiny, lustrous finish that will never dent, scratch or peel. Alcohol and most common chemicals will not affect Durez in any way. It is light in weight—reducing shipping costs—yet structurally strong.

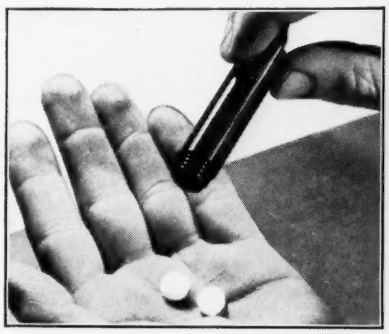
If you would like to know more about the possibilities of improving your packages with Durez, we'd be glad to send you more complete information, and to put our test laboratories at your disposal. Just write General Plastics, Inc., 25 Walck Road, North Tonawanda, N. Y.

DUREZ

THE MODERN PACKAGING MATERIAL

DE LUXE BOXES—Pleasing in design and with a definite quality appearance, this stock molded box is a permanent container. Women like the sleek finish that won't dull or chip. It would make an appealing package for a manicure set or cosmetic assortment.

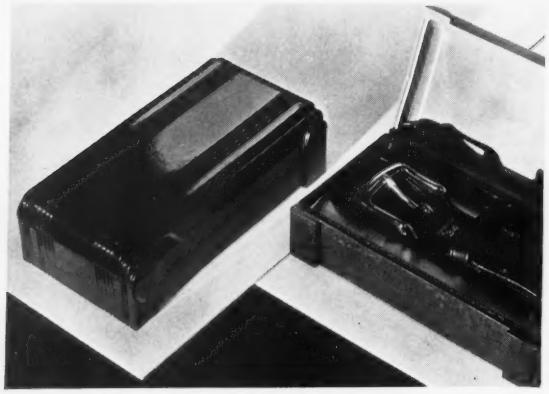
CREAM JARS—Durez molded jars are available in several shapes. They are rich in appearance, and the lids screw off and on with a mere flick of the fingers. Chemically inert Durez will not affect the contents. Durez jars have increased sales for many cream packers who have used them.



TABLET VIAL: Wheeling Stamping Co. scores a scoop with this new molded Durez tablet vial. Light, compact, handy . . . it slips out of the way in a vest pocket or purse. A flick of the fingers removes the cap. It is shatterproof, and the sleek, shiny Durez finish will not wear off. Fine for liquids too, for the tight-sealing screw-cap can be equipped with an applicator.

PACKAGE WITH PERMANENT USE—This Durez razor box will swing many a sale for the razor. Old-blade receptacle, new-blade package and the razor itself all fit into their neat niches. Soapy hands and wetting won't hurt it a bit. Other toilet articles can be packed the same neat, attractive way.

BOTTLE CLOSURES WITH PERSONALITY—The trade-name's Crown . . . so they made the closure one! Durez molded screw-caps can be made practically any shape to complement the design of your bottle or to tie up with your trade-name. Durez screw-caps always come off and go on easily, yet provide a tight seal.



Molded plastic boxes of modern design continue to be the haberdashery manufacturer's practice of making gift items out of formerly staple merchandise. This container is distinguished by two series of parallel ribs extending across the top and ends. A variety of color combinations permits its use on several different types of belts

surface. If chosen of the proper molding compound, plastic closures are unaffected by the contents they seal. They do not rust nor corrode in contact with pharmaceutical products, nor do they discolor the contents of the container. Their threads, being molded in, are uniform and cannot be stripped easily. They are usually made with a comfortable grip which allows an unusually tight seal, yet one that is quickly unsealed at a flick of the fingers—even delicate fingers. There is no question of their popular appeal to consumers, both from the standpoint of neat appearance and increased utility. Their appearance on bottles, tubes, jars, and other containers displayed in the shops has become universal.

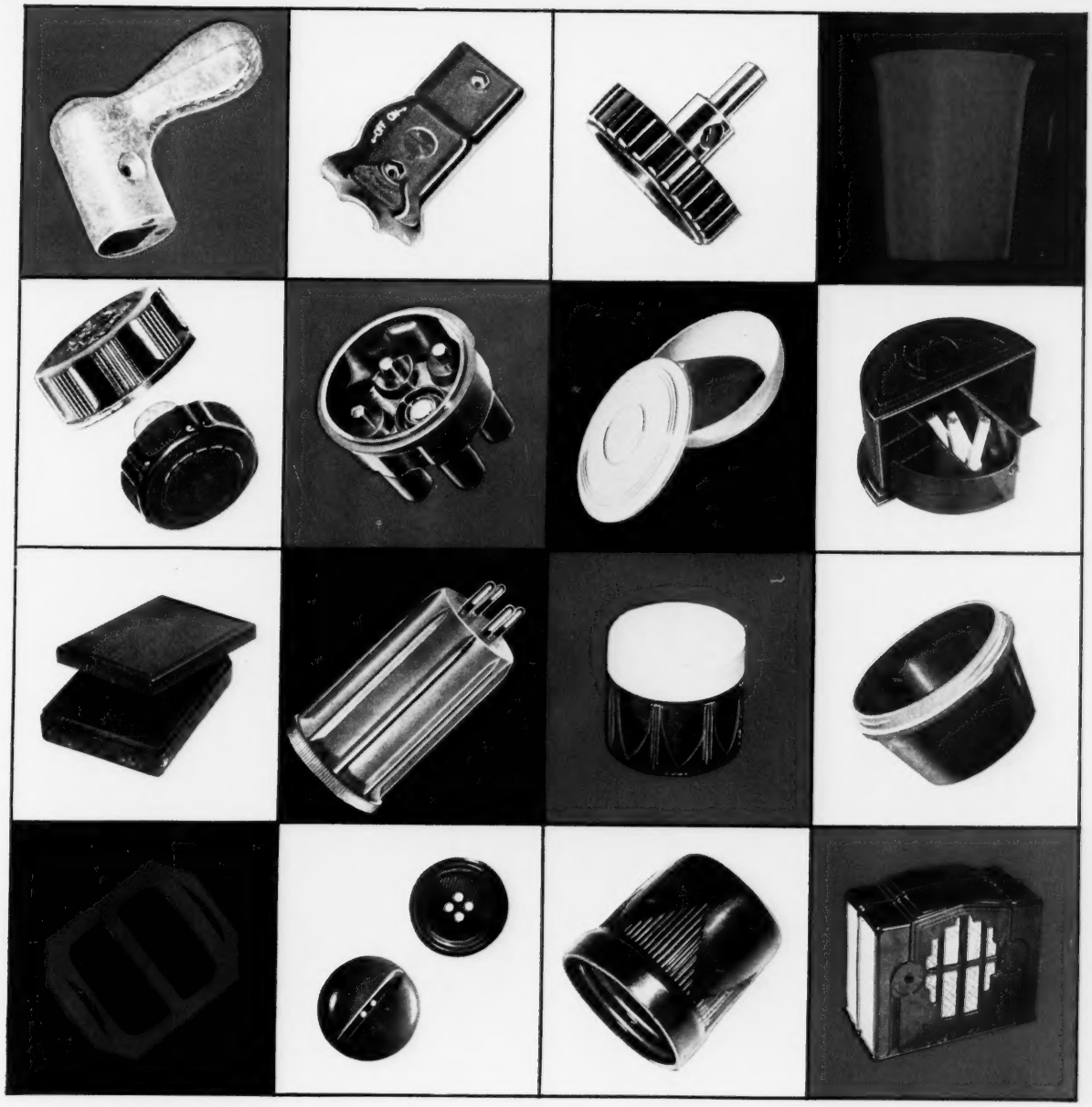
Closures, however, are but one item in the growing field of packaging applications to which plastics in one form or another are uniquely suited. Innumerable containers for lipsticks, eye shadow, powder and rouge have been made succesfully. Creams, which seek a container that demands attention and gets it, are being packaged in plastic jars with covers to match or in contrasting hues. All sorts of vanity cases, powder containers, and hundreds of vari-styled boxes with attractive reuse possibilities have taken advantage of molded color available through the use of molded plastics. In recent months, several safety razor concerns have switched to plastic boxes for their popularly priced sets. Sales results have been astounding. Plastic boxes for safety razors become more than a package in

An ingenious molded plastic container designed for tablets of the aspirin type or smaller. It fits pockets or purses conveniently and the contents cannot spill out when the screw cover is removed. Labels are molded into either top or bottom, or wrap-around paper foil labels can be used

which to deliver the merchandise into the home. They become constant traveling companions ever remindful of the courtesy of the maker in providing such a convenient package. Shaving bowls, shaving sticks, even cases for styptic pencils are being made in England quite generally, and some American manufacturers are following this lead.

Reuse containers for the introduction of a new product have been tried and found successful. Christmas and other holiday packages for belts, garters, suspenders and the like have been used successfully during the past three or four years and the notion is spreading rapidly to other fields. Men, particularly, like the smooth sanitary feel of a plastic case—for whatever purpose. Colors are available in an abundant choice and may be pleasingly combined in different sections of the same package without additional cost. A razor case was recently introduced, with a black body and a red cover and base, all fitting together tightly by the simple expedient of close tolerances made possible by careful molding. All three parts were molded at one operation in a single mold. By reversing the combinations of color, some of the cases appeared with a red body and a black cover and base. Other colors were similarly combined which gave an unlimited choice.

Molded plastic bowls have added to the sales of shaving soap. These may be had in various designs and in combinations of colors, using the same color throughout or having different tops and bottoms. Inset labels may be used or the trade mark or name included in the mold



Molded of RESINOX

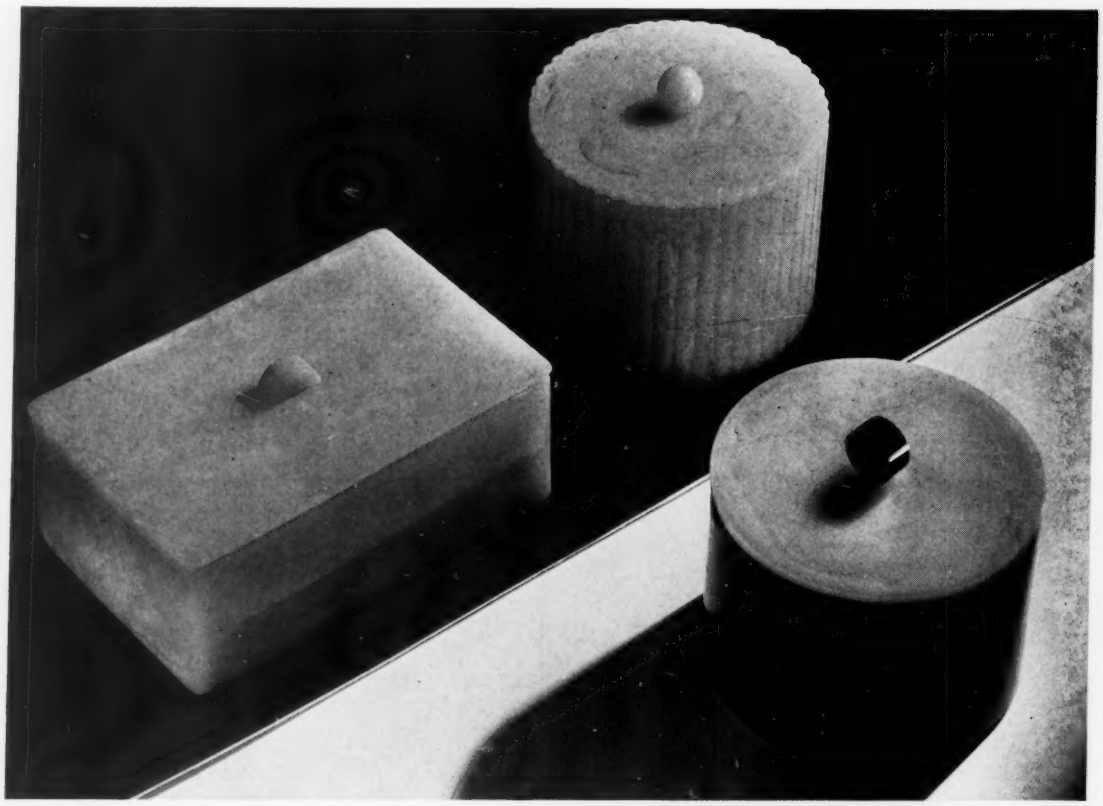
THERE IS A RESINOX MOLDING MATERIAL FOR EVERY MOLDING NEED. ASK YOUR MOLDER FOR DETAILED INFORMATION, OR WRITE RESINOX CORPORATION, 230 PARK AVE., NEW YORK, N. Y.

There is another decided advantage to be gained through intelligent employment of plastic materials in packaging. That is their lightness in weight in comparison with metal and glass and the resulting savings in packing and shipping throughout the country. Molded packages are practically unbreakable, and can be packed for shipping in much lighter containers than is possible for the shipment of glass. The plastic containers themselves are lighter than glass.

Another advantage lies in the opportunity for unique shapes. Plastics can be molded in any shape the designer cares to suggest. Threads become an integral part of the molding. Trade-marks, trade names, or any desired decoration can be molded in at one operation.

Cast Resins

Phenol-formaldehyde cast resins differ from molding compounds in that they are supplied by the manufacturers to fabricators in definite shapes rather than in powder form. Cast resins are available in sheets, rods, tubes, and other standard stock shapes in a wide range of sizes and their method of fabrication is by machining and assembling rather than molding. They have an advantage in package fabrication where a limited number of units is required because mold costs are entirely eliminated. During the past year, a number of manufacturers striving for the unusual have made use of cast resins for cosmetic packaging and displays.



Types of boxes made entirely from phenol-formaldehyde cast resin. An extensive use for this material in the packaging field is the placing of small pieces of the resin on set-up boxes, for supplementary decoration, handles and the like

Inlays of metal or other material may be specified. Decorative possibilities are practically without limit. Engraved or repousse effects are obtained by engraving the mold. Oxidized metal powders may be mixed with molding powers to produce striking effects. Or the smooth natural luster of phenolic moldings in their wide range of natural colors may be found sufficient for all practical purposes of modern packaging.

Manufacturers of materials in this group include: Bakelite Corporation (Bakelite); General Plastics, Inc. (Durez); Resinox Corporation (Resinoid); Makalot Corporation (Makalot); General Electric Company (Textolite); and Watertown Mfg. Co. (Neillite).

Food and candy manufacturers seeking a seasonal package of uncommon beauty may well take advantage of the gorgeous colorings or almost pure transparency of this type of plastics. Until a short time ago, most cast resins were used by button and jewelry fabricators—nearly seventy per cent of all costume jewelry today is made from this material. Since cast resins may be procured in sheets of any reasonable size, they are unexcelled for display purposes where a permanent colorful or translucent surface is desired. A Fifth Avenue store recently lined the floor of its entire jewelry case with mottled white cast resin as a foil for the modern fixtures and colorful jewelry it displays.

XUM

BAKELITE CORPORATION

247 PARK AVENUE, NEW YORK, N. Y.

BAKELITE CORPORATION OF CANADA, LTD., 163 Dufferin St., Toronto, Ontario, Canada

Works at Bound Brook, N. J.; Bloomfield, N. J., Sales Offices at Chicago, Ill.; Cleveland, O.; Hartford, Conn.

BAKELITE

TRADE MARK REG. U.S. PAT. OFF.

Closures for Bottles, Tubes and Jars

Development of the modern art of packaging demands that a closure serve a double duty. It must thoroughly seal and protect the contents and add to the attractiveness and saleability of the product. Because they meet these needs so admirably, it is easily understood why Bakelite Molded closures have been adopted for so many packaged products.

Bakelite Molded closures are non-corrodible, possess unusual lustre and beauty and are readily formed into exclusive designs. The molded threads are clean, accurate and uniform, and the closures are easily tightened and released.

Bottles with Bakelite Molded caps for liquor, drugs, cosmetics and foodstuffs

Tubes with caps of Bakelite Molded—one with metal applicator embedded

Containers and Dual-use Packages

Bakelite Molded containers are successfully promoting the sale of products of widely different kinds, including cosmetics, candy, safety razors, garters, belts, watches, dental burs, automotive parts, etc.

Many of these containers are designed for dual-use; first, as an attractive package for a product, and then for after-use as a cigarette box, jewel case, ash tray, or other service. Because of its beauty of color and finish, strength and durability, Bakelite Molded is especially well suited for dual-use containers.

Facial cream jars with caps of Bakelite Molded

Merchandise Displayers

Attractive modern displayers, that invite favorable attention to the products shown, are being made of both Bakelite Molded and Bakelite Laminated. Displayers made of these materials retain their fresh, new appearance indefinitely, and do not become shabby and unsightly.

Water-proof Box Coverings

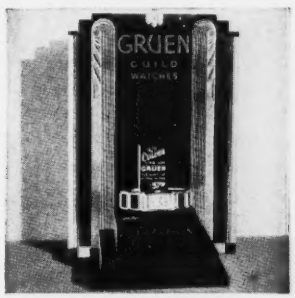
Revolite—a flexible water-proof cloth, processed with Bakelite Resinoid. Available in solid colors, metallic effects, embossed and other designs. For box covers, linings, displays, and decorative purposes.

Vanity case and cigarette box made of Bakelite Cast Resinoid

Send for Information

Write for Booklet T, "Restyling the Container to Increase Sales". Whether your product is packaged in tubes, bottles, jars or boxes, you will find this booklet helpful. Do not hesitate to call on us for information and assistance in adapting Bakelite Materials to any of your products.

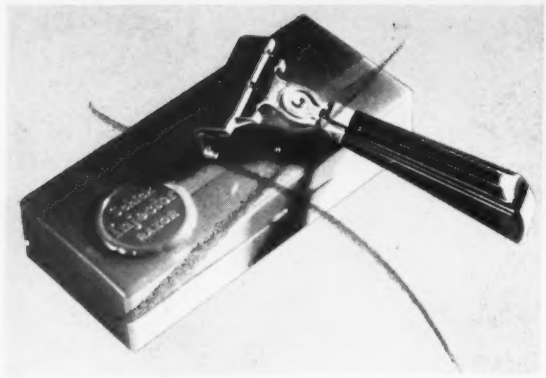
Belt, tie-clip and stud set dual-use packages made of Bakelite Molded



Counter display of Bakelite Materials for watches

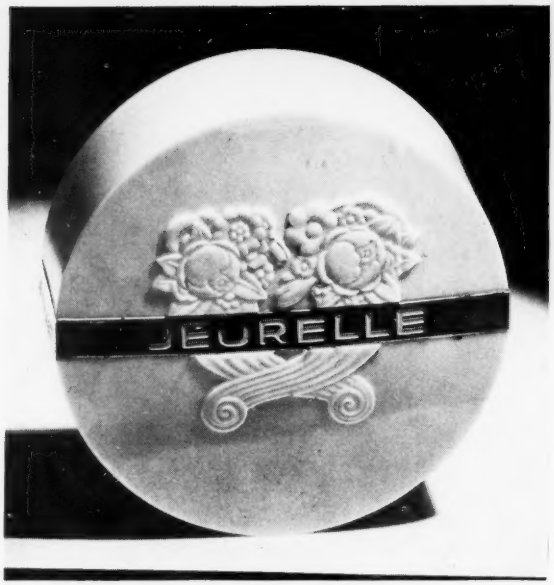
Window displayer of Bakelite Laminated for silverware

Gift boxes lined and covered with flexible, water-proof Revolite



A new razor is introduced with all the attraction of its expensive model at less than half the price—in a molded box. The handle of the razor is of cast phenol

Manufacturers of materials in this group include: American Catalin Corporation (Catalin); Marblette Corporation (Marblette); and Fiberloid Corporation (Fiberlon).



Powder box carved from a solid block of ivory resinoid with gold metal strap. Later molded in urea

Urea Plastics

Urea plastics are of the molding type and are available in lighter shades of color than most of the phenolic group. This is because urea syrup, before the condensation process which reduces it to powder has taken place, is a water clear liquid. It, therefore, gives full value to pigmentation and (*Continued on page* 260)

In a box brought out this year for a new face powder, a molded urea base is successfully combined with the round paperboard bottom. Afteruse of this base suggests a convenient coaster

DIEMOLDED BOXES speed up sales!

Let us help you, too

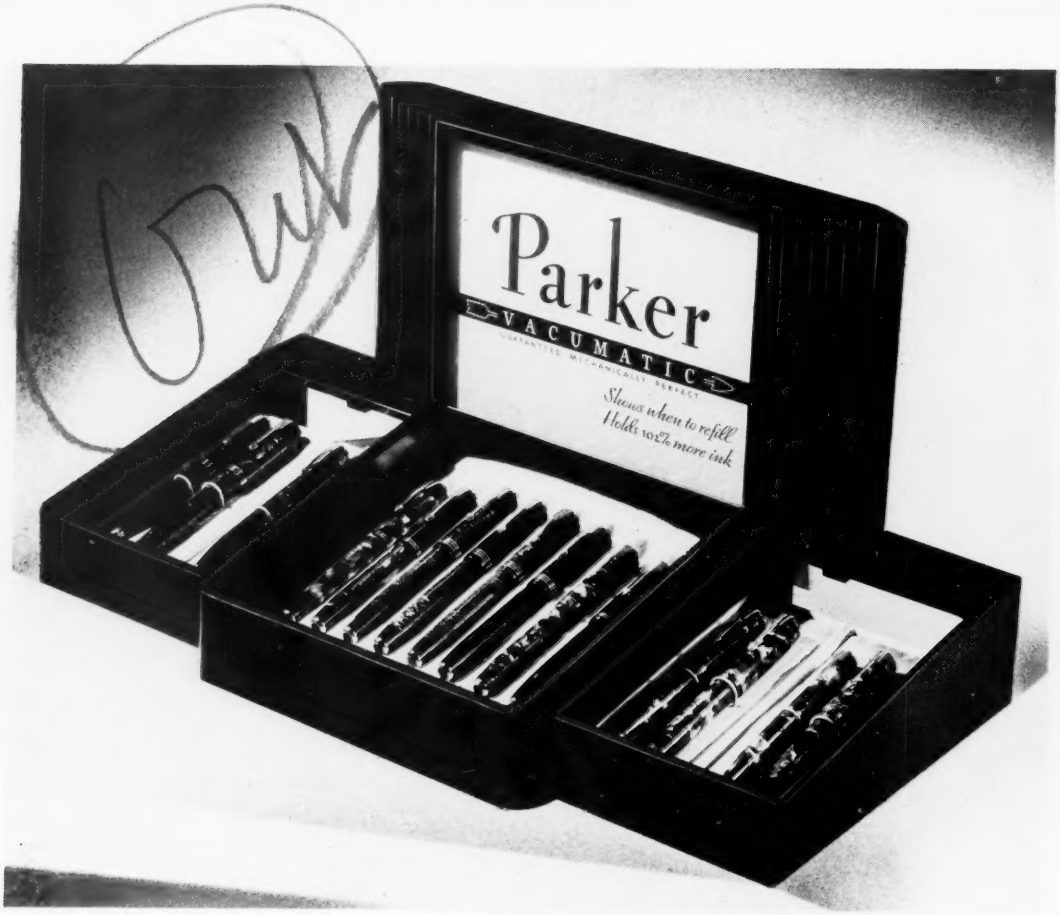
For real beauty and utility in packaging, use DIEMOLDING. The boxes shown at left were made by us for Hickok jewelry. While they have re-use value on a man's dresser (for studs and other small items) it is interesting to know that, for the first time, Hickok bought these boxes without "re-use" being the outstanding feature. In other words, molded containers have come to the point where they are used because of their direct advantages.

Many other firms, many other products, have found DIEMOLDING the solution to their sales problems. All our containers have exceptional sales appeal because of distinctive design and construction. Why not let us help you, too? We will be glad to hear from you.

TRADE DM MARK

DIEMOLDING Corporation
CANASTOTA, NEW YORK

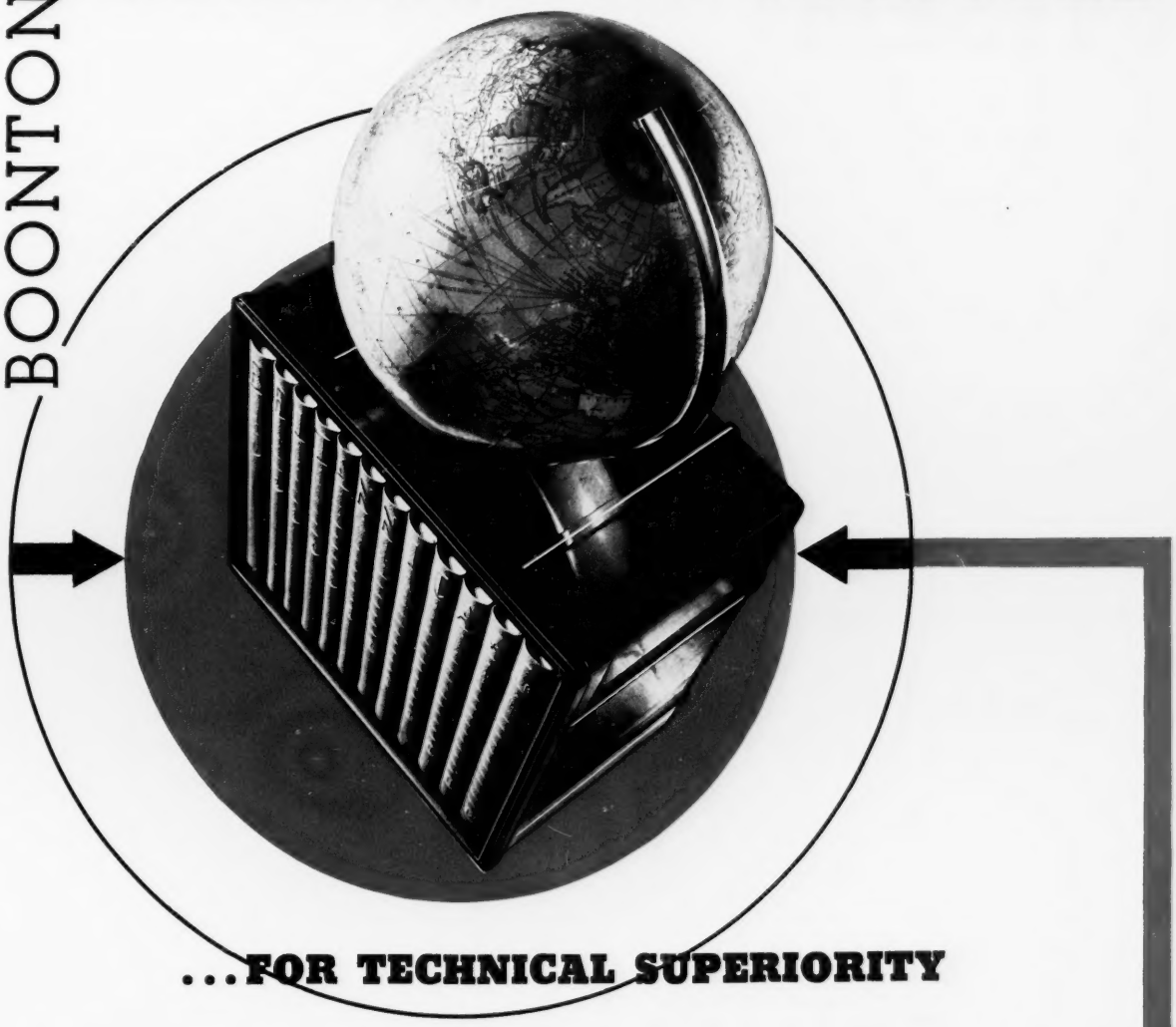
DISPLAYS OF PLASTIC MATERIALS



For counter or shelf displays, plastics are particularly well suited. Durable and lustrous, they defy shop wear and at all times present an attractive appearance as well as imparting quality to the merchandise shown. This example shows a comparatively simple yet most effective design—one which functions successfully as a "silent salesman"

In the display field, constant use is being made of molded and cast plastics, either in various combinations of the different resins or with metal, glass, wood and other substances. The illustration above shows examples of metal and phenol, while that at the right, a combination of both phenol and urea with a metal display plate—all three displays being used in the cosmetic field. In the demonstration display the color shades, which are available in nail tint, are faithfully matched in plastic. Equally ingenious molded displays are to be found in other fields

BOONTON MASTER MOLDERS **SELECTED**

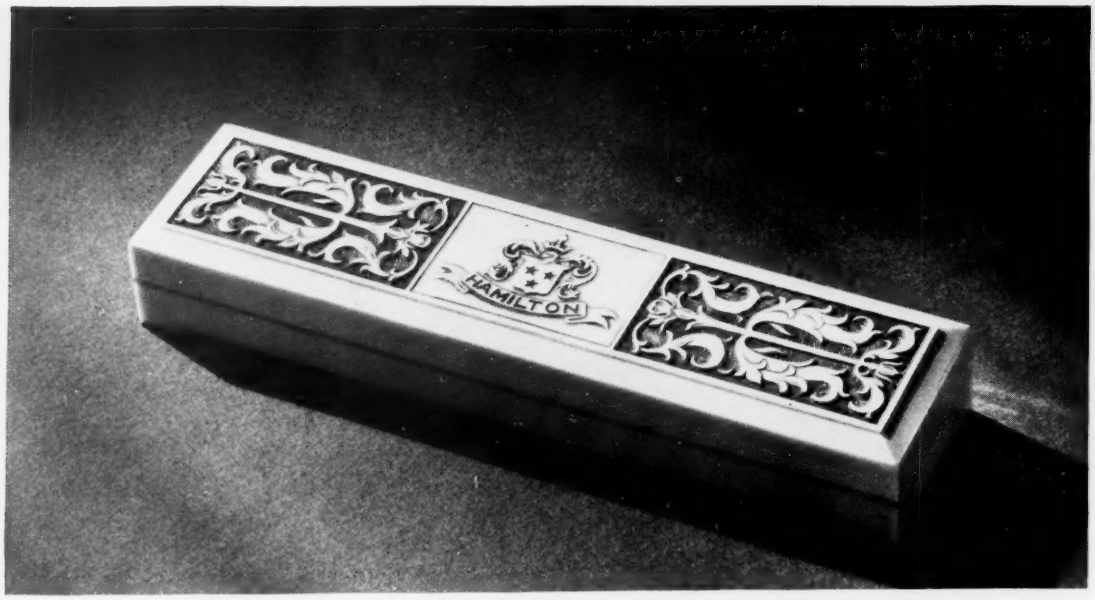


...FOR TECHNICAL SUPERIORITY

...Boonton was chosen by Encyclopaedia Britannica for "the year's most important Molded Container job"

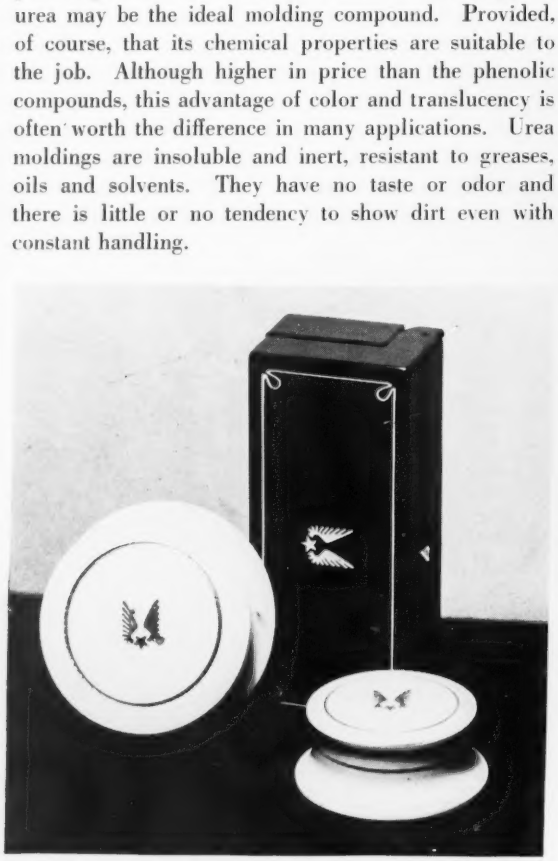
A sales success from the word "Go," this effective molded bookcase was awarded First Prize in the All-America Package Competition as the outstanding molded container of the year. • Because a full-size bookcase of Bakelite presented an unusual and difficult molding problem, Encyclopaedia Britannica, Inc., promptly turned to Boonton. • They knew Boonton had the experience and the equipment for the job. And Boonton's staff of engineers offset the technical difficulties of this unusual area and depth to produce one of the largest pieces ever molded! A prize winner! • Whether you are merely considering the possibilities of plastics for a particular part or product, or want immediate action, our counsel and services are at your disposal. A representative will be glad to call upon request. • Send for the booklet, "A Ready Reference for Plastics." With our compliments!

BOONTON MOLDING COMPANY, 40 Mark Street, Boonton, N. J.



A molded urea box simulates carved ivory and serves handsomely as a display and utility case for a well known watch

(*Continued from page* 256) even pastel shades may be definitely controlled. Even white and ivory are possible in ureas. To the manufacturer whose package depends upon daintiness of color for its selling appeal, urea may be the ideal molding compound. Provided, of course, that its chemical properties are suitable to the job. Although higher in price than the phenolic compounds, this advantage of color and translucency is often worth the difference in many applications. Urea moldings are insoluble and inert, resistant to greases, oils and solvents. They have no taste or odor and there is little or no tendency to show dirt even with constant handling.



Rouge and eye shadow boxes (round) are molded of white urea, with the decoration in gold, while the mascara box is of brown phenol with white decorations

Ureas have been used widely for tube and bottle caps because their broad range of colors offers a distinctive note of attraction while goods are on display. They are frequently chosen for better harmony with

Matching the color scheme of this new shaving set—royal blue and gold—is the molded bowl in blue urea

labels than would be possible with dark colors. They are especially suitable, too, for intimate use in the boudoir and bath and for that reason have found general favor in packaging cosmetics.

One manufacturer of quality cosmetics recently introduced a new powder made by a special process which produced an exceedingly fine powder. This called for a container which would provide especial protection from water absorption. A case was required that would permit no moisture to "creep" through the bottom of

HANDS REACH FOR *Catalin* CONTAINERS

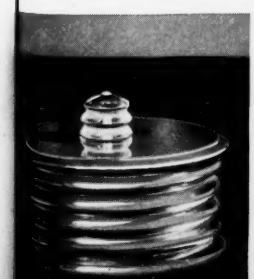
Beautiful CATALIN is a practical material for modern packages and re-use containers. Because of its richness of color, it is most appealing to the eye. The immediate impulse is to handle it... CATALIN's exquisitely radiant surface is charming to the touch!

These attributes give CATALIN sales appeal. And, equally important to modern merchandising, is the fact that CATALIN qualifies from the point of view of cost and adaptability.

CATALIN is a cast material, it does not require seasoning—thus it is immediately available in sheets, rods, tubes, also in special castings. No expensive mold charges involved.

CATALIN colors range from water-clear PRYSTAL through every conceivable hue, tint and tone to jet black—in opaque, translucent or transparent effects—plain, mottled or delicately grained... truly, the most beautiful of plastics... the gem of modern industry... a gem for modern packagers.

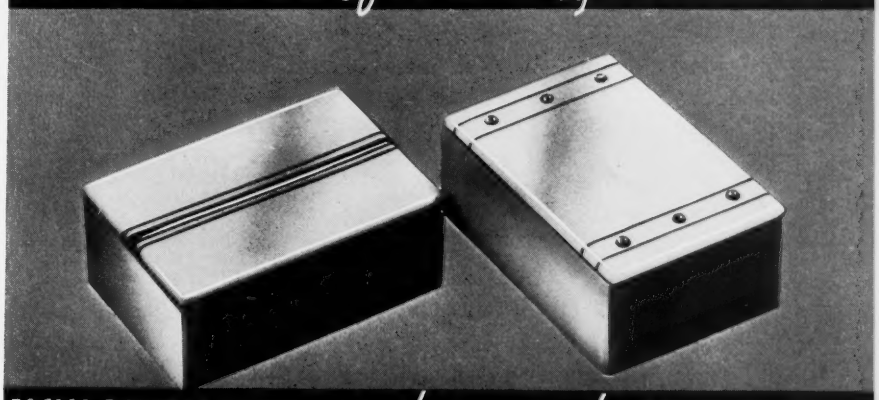
AMERICAN *Catalin* CORPORATION
ONE PARK AVENUE • NEW YORK



TO THE LEFT, A facial powder vanity package, beautifully designed in its entirety of colorful CATALIN.

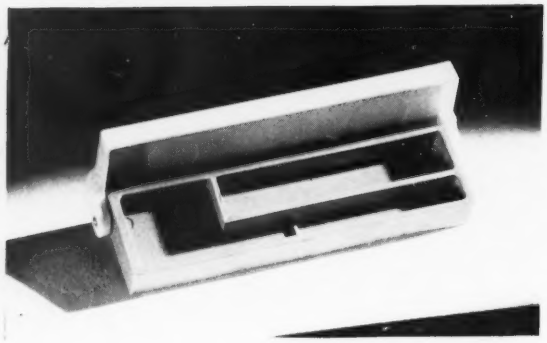
TO THE RIGHT, The Revlon Nail Polish container—a highly successful promotion — exquisitely effected in mottled white CATALIN.

CIGARETTE CONTAINER *of* CATALIN... *by* EVANS CASE CO.



FACIAL POWDER CONTAINERS *of* CATALIN... *by* RAY SALES CO.

XUM



Top: By a special process, covers for flat-silver chests are molded of phenol and urea plastics. The size shown is 15½ by 11 by 1¼ inches. Lower: This molded box with a urea top and phenol base for make-up preparations is an interesting example of the use of molded partitions. Note also the special hinge employed

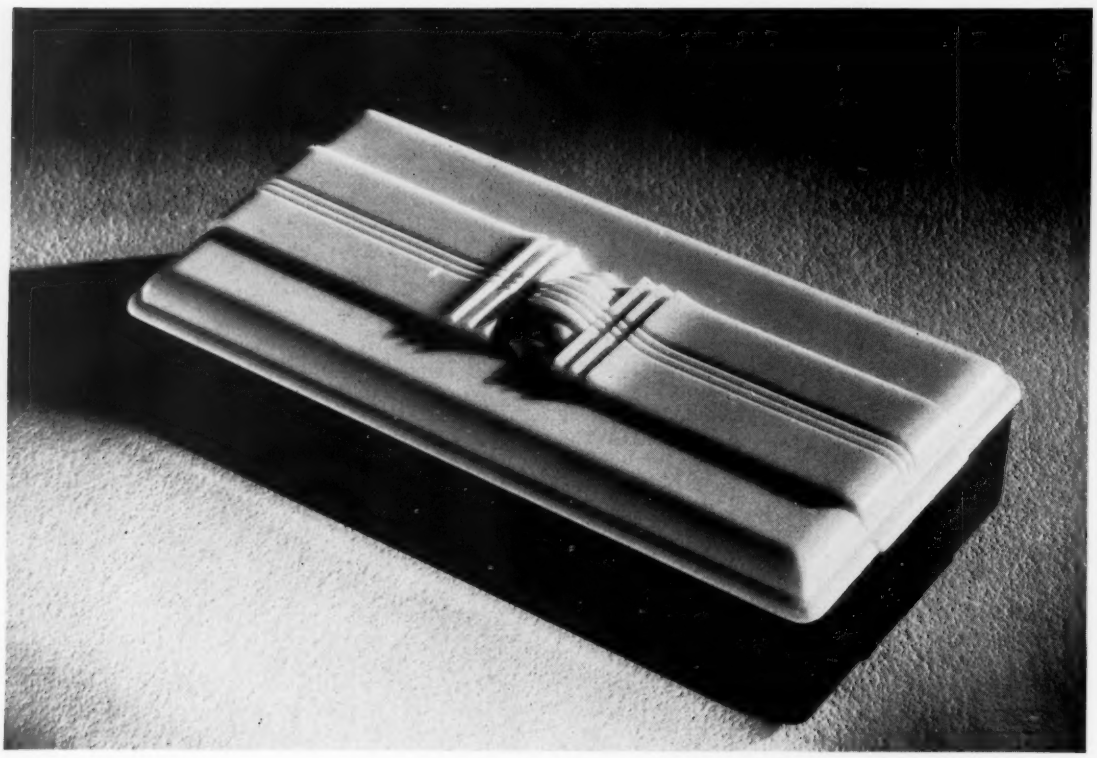
the container while displayed in the shops or while in use in the boudoir or on the bathroom shelf. A molded disk of urea plastic was made to fit tightly into the paper drum of the box to serve as its bottom. This combination of plastics and paper was pleasing to see, and thoroughly efficient as a moisture proof container. It had reuse value, too. When the powder was used, the urea disk made an excellent coaster.

Ureas are often used in conjunction with plastics of the phenolic group. Their gay colors contrast pleasantly with the brilliant blacks and dark shades of the less expensive material. Urea covers of ivory or pastel shades create a harmonious ensemble with the smooth lustrous finish of black phenolic boxes and jars. A fountain pen manufacturer recently used ivory urea trays for the actual display of pens in an electrically illuminated molded display stand of black.

Manufacturers of urea materials include: American Cyanamid Company (Beetleware); Plaskon Company, Inc. (Plaskon); and the Unyte Corporation (Unyte).

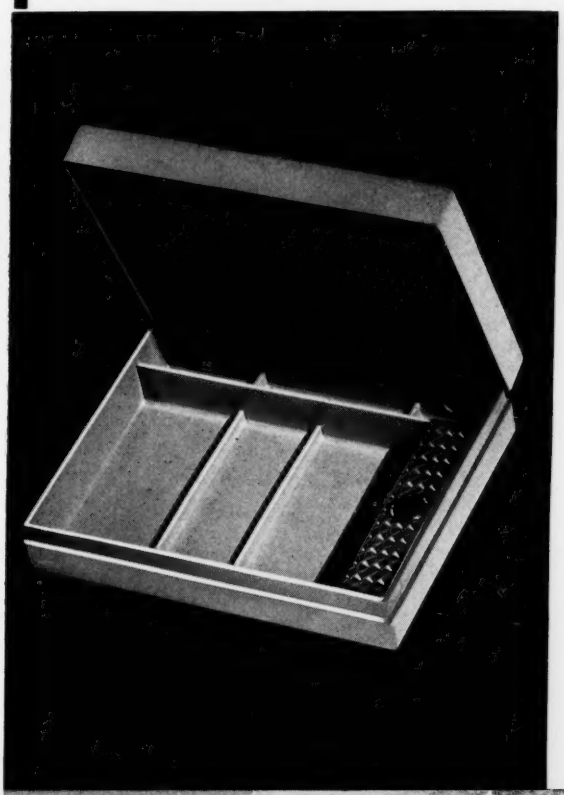
Cellulose Acetates

Among the oldest of all plastics, cellulose acetate has the added advantage of many years of experience with public acceptance. It is available in many forms from the thin translucent sheets with which so many packages are wrapped, to thicker sheets, bars, rods, and tubes. It is also available in molding form from clear transparent to every shade desired by the most exotic designer. Its mottled effects are legend and there is practically no limit to the variations of this versatile material. Heat and pressure are required to mold it



Exquisite design in a utility case for fountain pens. The ivory urea cover, reversed, becomes a felt-covered display tray

LEADERSHIP IN MOLDED PACKAGING... won by WATERBURY



Every year for the past decade, the outstanding molded packages have borne the Waterbury mark . . . a sign of quality that has become recognized as the identification of a perfectly molded piece.

In the packaging field, the Waterbury mark means design by competent engineers and artists who know how to solve both molding and packaging problems at the same time. It means workmanship backed by years of molding experience. It means speedy service, because ours is one of the country's largest molding plants; plus complete metal working equipment—right in the same plant—for those packagers whose products require containers combining the advantages of metals and plastics.

We invite consultation on your problems for containers, closures or other molded devices.

THE WATERBURY BUTTON COMPANY
PLASTIC DIVISION
EST. 1812
WATERBURY, CONN.
NEW YORK CITY • BOSTON • PHILADELPHIA • ROCHESTER
DETROIT • CHICAGO • TORONTO

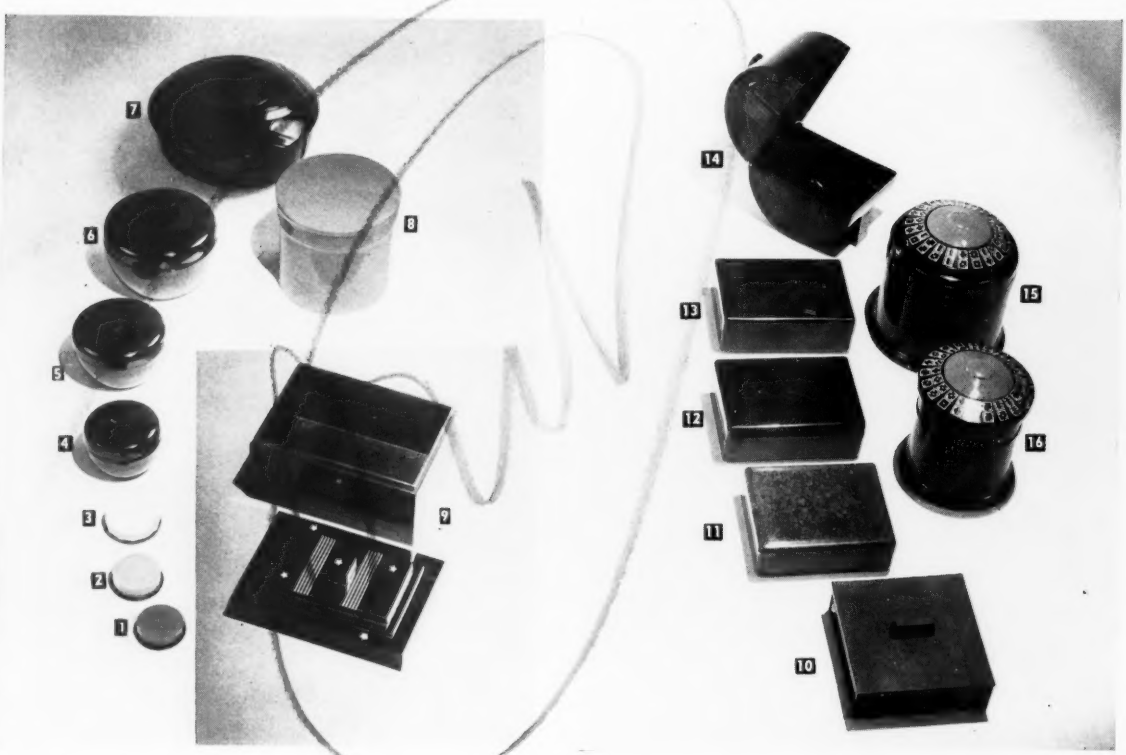
into shape, or in thinner applications, cellulose acetate may be die-stamped in a similar manner to metal. Moldings are practically non-inflammable but will not stand as much heat as thermosetting plastics after they are once formed. They are tough, resilient, light weight, uniform, tasteless, odorless, sanitary and non-corrosive. They do not deteriorate with age and are not easily broken.

Manufacturers of cellulose acetate include: Celluloid Corporation (Celluloid); Tennessee-Eastman Corporation (Tenite); Fiberloid Corporation (Fiberloid and Fibestos); and Du Pont Viscoloid Corp. (Pyralin).

PLASTIC CONTAINERS FROM STOCK DESIGNS

THERE ARE PROBABLY MANY MANUFACTURERS who would like to package their product in plastic boxes if they knew such boxes could be obtained within the limits of their appropriation for containers. It has probably never occurred to some of them that many such boxes are available if they were only able to dig out the source of supply. It is to these manufacturers that this article will be of special interest, for it not only presents a source of supply but furnishes a short approximate description of more than fifty available items.

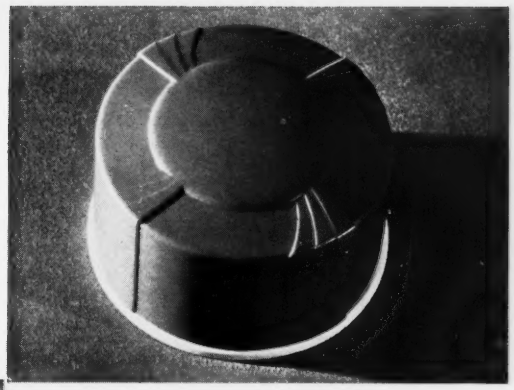
Original mold costs have been frequent barriers to manufacturers whose requirements for a few hundred boxes of exceptional quality to package a certain item would not permit the additional investment and still leave anything like profit. Molded boxes from stock designs are the natural answer to these requirements



1. Small round rouge box with 12-sided cover; inside about ⅞ in. diameter by $\frac{3}{16}$ in. depth; rounding inside base. 2. Rouge box, round with screw cover; about 1 in. by ¼ in. inside; rounding inside base. 3. Rouge box 1⅛ in. by $\frac{5}{16}$ in. inside; 12-sided screw cover; straight walls inside. 4. Cream jar, curved sides, screw cover. 1⅝ in. at opening by about 1 in. deep; overall height 1⅜ in. 5. Larger jar, same design as Numbers 4 and 6; 2⅛ in. diameter by 1⅛ in. deep; overall height about $1\frac{11}{16}$ in. 6. Same as 4 and 5 except larger; 2¾ in. diameter by about 1½ in. deep; overall height about 2¼ in. 7. Footed powder box, designed surface, lift-o cover; about 4⅝ in. diameter by 1¼ in. deep inside; overall height about 2¼ in. 8. Cigaret box with rounding telescope cover; 3 in. diameter by 3 in. overall height; 3⅜ in. cover diameter with belled sides and top. 9. Oblong box with decorated cover; inside dimensions, 4 in. by 2¾ in. by 1¾ in. deep. Overall height with cover is 2¾ in.

10. Flat box $3\frac{7}{16}$ in. square, and separate lid with molded handle; inside depth of box is $1\frac{3}{16}$ in.; overall height, $1\frac{7}{16}$ in. 11. Box with grooved border on lift-off cover; $3\frac{11}{16}$ in. long by $2\frac{15}{16}$ in. wide by $1\frac{3}{16}$ in. inside depth; overall height is 1⅛ in. 12. Hinged box with designed cover and trade-marked bottom (which may be removed); about $3\frac{15}{16}$ in. long by 2¾ in. wide; ⅞ in. deep inside and 1½ in. height overall. 13. Hinged box with small bordered square in upper left corner, otherwise plain; $3\frac{15}{16}$ in. long by $2\frac{13}{16}$ in. wide by ⅞ in. deep inside; $1\frac{7}{16}$ in. overall height. 14. Vertical drum box with molded foot and handle; $3\frac{11}{16}$ in. diameter. $4\frac{5}{16}$ in. overall height; width inside, $2\frac{13}{16}$ in. 15. Unique cigaret box with roulette wheel mounted on a bearing that allows easy spinning; diameter, 3⅞ in; height inside, $2\frac{11}{16}$ in; overall, 4⅜ in. 16. Smaller version of the roulette wheel cigaret box; $2\frac{13}{16}$ in. diameter; $2\frac{3}{16}$ in. high inside; $3\frac{15}{16}$ in. overall

PLASTIC BOXES AND CONTAINERS



. . . quickly supplied in your individualized colors from stock

STOCK MOLDS of varied shapes and sizes are now available to *you*. Here you will find all sorts of molded plastic boxes or cosmetic containers in your *individualized* choice of colors . . . on short order.

You pay no mold costs, no engineering or design charges. Yet you get a box which is peculiarly fitted to your own needs and your own color scheme. And our ample molding facilities insure you quick delivery . . . whether your requirements are large or small.

Write for prices, samples and full information. Of course, we are also interested in handling special molding problems and production. Tell us what you want—we'll help you work it out.

The **KURZ-KASCH** *Company*

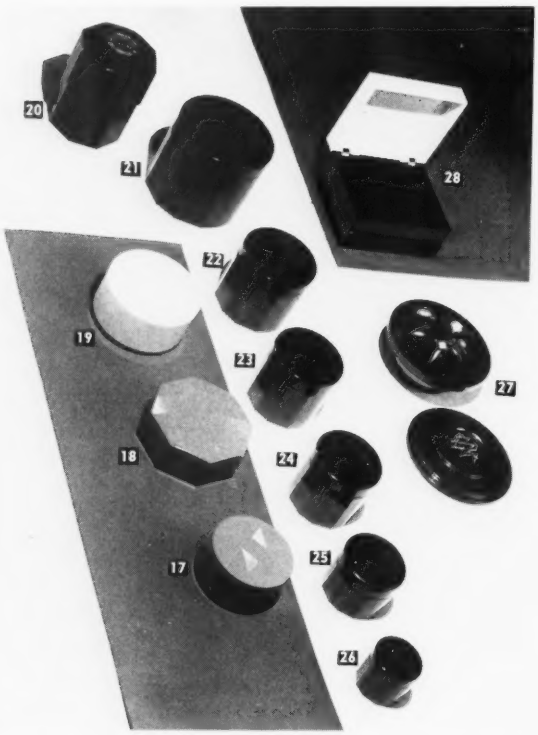
DAYTON, OHIO

NEW YORK · CLEVELAND · LOS ANGELES · DETROIT · CHICAGO
DALLAS · ST. LOUIS · MILWAUKEE · TORONTO, CANADA

MOLDERS OF PLASTICS

and there are many molding establishments with a number of such molds in their archives waiting to be used.

It is keen buying judgment to take advantage of these stock designs and there is no reason to believe that because a box has at one time been used to package a

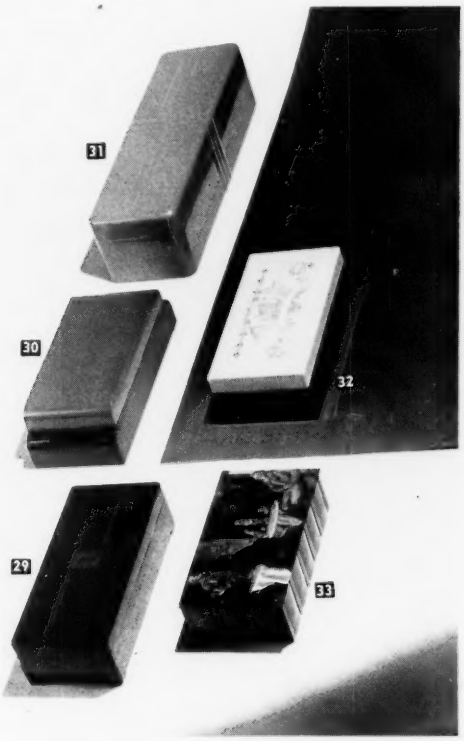


17. Round box with telescope cover with groove decoration; 2⅛ in. diameter; 1 1/16 in. deep; 1 5/16 in. height overall. 18. Octagonal box with telescope cover, groove designed; 2¾ in. diameter; ⅞ in. deep; 1 3/16 overall height. 19. Round box with telescope cover; 2 11/16 in. diameter by 1¼ in. deep; 1 9/16 in. high overall. 20. Octagonal box with telescope cover designed with a trade-mark which can be deleted; 2 3/16 in. diameter by 2 in. deep inside; 3 9/16 in. overall height. 21. The largest of a series of octagonal boxes of identical design in varying sizes, each with round screw closures; diameter is 2⅞ in.; depth 2 9/16 in.; overall 3 in. 22. Diameter 2 1/16 in.; depth 2 in.; overall 2½ in. 23. Diameter 1 15/16 in.; depth inside 1 13/16 in.; overall height 2¼ in. 24. Diameter 1¾ in.; depth 1⅝ in.; overall 2 1/16 in. 25. Diameter 1 9/16 in.; depth 1 3/16 in.; overall 1⅝ in. 26. Diameter 1⅛ in.; depth 15/16 in.; overall 1 5/16 in. 27. Stag Shaving Bowl is engraved in the cover of this round box which has 3½ in. diameter and a depth of 1¼ in.; overall height 1¾ in. 28. Oblong box wtih hinged cover; length 3 11/16 in.; width 3 1/16 in.; depth 1⅜ in.; overall height is 2 5/16 in.

product that it is not equally useful in packaging another product. Even though a stock design is chosen to avoid mold costs, there is nothing to prevent the molding from being given its own individuality and made suitable for the exact purpose in mind. It must be remembered that the molds are really the stock items. The containers to be made from these molds are not in any sense ready-made. They can be as different from the original boxes for which the molds were made as the imagination of the manufacturer will allow.

In the first place, plastics permit a wide range of colors and color combinations which are in no way limited by stock molds. If an original box and cover were produced in red or black, there are literally hundreds of color combinations that can be used to make the new boxes appear as different as though actually designed for the current user. It is also possible to make boxes of one color and covers of another. Or the cover can be made of plastics and the box itself of another material. Then, too, there are inlays, either of metal or another color of plastic material, which offer innumerable ways of changing the appearance of a box from that of its predecessor from the identical mold.

If a comparatively long run is contemplated, trade names and trade marks may be hobbed into the mold to be used for the cover, producing an entirely individual box with identifying name of the product or manufacturer. Inlays, especially, offer an attractive means for product identification and they may be accomplished either by inserting stamped metal inlays in



29. Oblong footed box with hinged cover; 6 3/16 in. by 3 in.; depth 1 3/16 in.; overall height 1⅞ in.; cover has inconspicuous design etched in. 30. Oblong box with hinged cover and extended base; 6 in. by 3 in.; depth 1¼ in.; 2⅛ in. overall height. 31. This box has a lift-off cover; 11 3/16 in. by 3 7/16 in.; depth 2 3/16 in.; overall height 3 1/16 in. 32. Oblong box with hinged cover which bears an elaborately carved decoration in a recessed panel; 6 in. by 3 in. with 1 5/16 in. depth inside; 2 3/16 in. overall. 33. The hinged cover on this box is laminated with a colorful print which could be eliminated if desired (see number 34); 5 1/16 in. by 2⅞ in. with 1⅜ in. depth; 1 11/16 in. overall

the mold when molding or by hobbing the marks of identification in the original mold and then plating with metal by electro-plating methods. These recessed identification marks may also be wiped in with contrasting color if the expense of inlays would be avoided.

The re-use value of plastic containers must not be overlooked nor underestimated. Their smooth lustrous surface and the permanent nature of their construction preclude any chance of their being discarded as soon

Reilly INDUR Plastics

for MOLDED PRODUCTS

Molders find Reilly Resins a most responsive and satisfactory medium for their skill. Any design or shape can be made with Reilly Indur. The lustrous appearance, the wide range of colors and the variety of mottled patterns permit full expression of any desired effect. The strength, durability and resistance against acid and alkali give permanence to articles molded of Reilly Indur. The uniformity and quality of Reilly Plastics are assured by the rigidly maintained chemical control exercised in the production of Reilly Phenols.

Any molder can produce your design from INDUR. Specify INDUR and endow your molded products with beauty and quality.

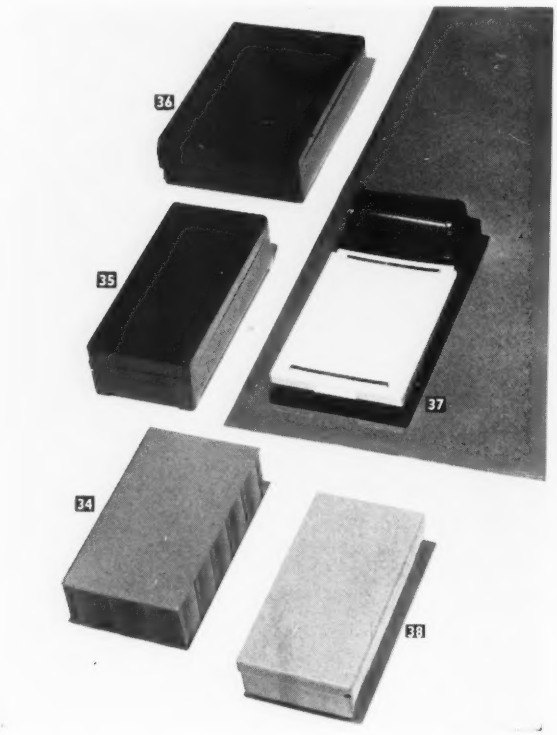
REILLY TAR & CHEMICAL CORPORATION

Merchants Bank Building · Indianapolis

500 FIFTH AVENUE, NEW YORK 2513 S. DAMEN AVENUE, CHICAGO

· 14 Plants to Serve You ·

as the product which came in them is removed. Women, and men too, find many permanent uses for an attractive box and almost all of these plastic boxes, available from stock molds, have been carefully designed with this thought in mind. It is one of the greatest recommendations for the use of plastics in container construction. This one advantage is frequently responsible for the choice of the item at the point of sale. There

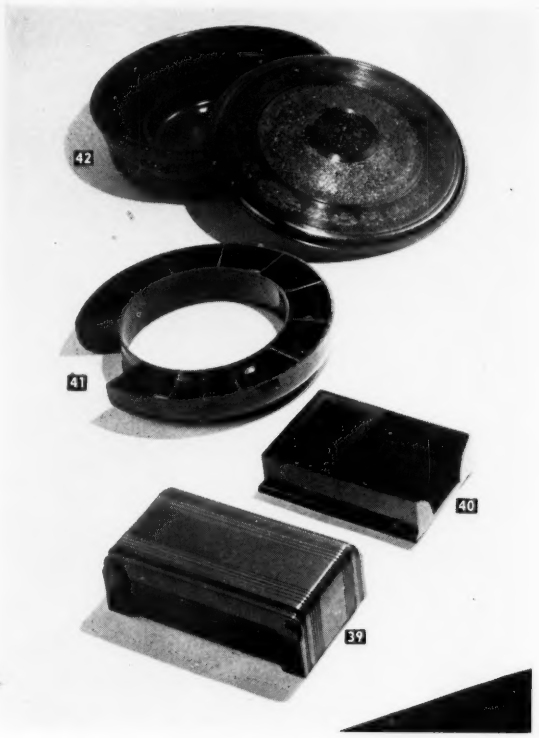


34. This hinged box is exactly like number 33 except the laminated print has been omitted from the cover. 35. Oblong footed box with hinged cover; 6 3/16 in. by 3 in. with 1 3/16 in. depth; 1 7/8 in. overall height. 36. Flat box with outside hinge for cover leaving full inside dimensions of 6 1/4 in. by 4 1/2 in. with 1 1/4 in. depth; only 1 11/16 in. overall. 37. Famous memo pad with concealed roll of memo paper which may be torn off as used; the space beneath provides storage for clips and rubber bands; molded in three parts; 5 1/4 in. by 3 3/4 in. inside. 38. Oblong box with separate cover embossed with ship design; 5 5/16 in. by 2 3/4 in. 1 in. inside; 1 5/16 in. overall

are amazingly few instances where the extra cost of a plastic box has not justified the additional expense when total volume of sales has been tabulated.

Some molders have spent considerable time and money in perfecting cream jars, powder boxes, rouge boxes, lipstick containers and allied items for the cosmetic trade. Others have developed clever moldings that serve in the re-use capacity of cigarette boxes or ash trays and the like, cleverly designed and thoroughly useful both for packaging appropriate items of merchandise and in after use. Then there are other molded items which were originally planned for the retail trade and which, through their familiar appearance in retail stores at a rather substantial price, add obvious value to the merchandise they contain when they appear as a package, without cost to the purchaser.

Another advantage to the manufacturer who is in a position to choose a design from a stock mold is prompt delivery. To make a mold of steel, grinding and tooling it into shape and hobbing in special designs takes time. Weeks, and often months, are required to finish a mold of this sort. But the manufacturer who finds a mold that is satisfactory for this purpose among stock molds has only to wait for a chance to get the mold onto a press and production begins at once. Not only that, but he has the opportunity of seeing exactly what kind of box or container will be delivered when production begins. Samples are almost always available, and the manufacturer can look them over, choose one that meets his requirements of size and price, and if he chooses to do so, can order a hundred or so for test purposes in obtaining sales reaction before he orders



39. Simply designed cigaret box with hinged cover; 6 3/16 in. long by 3 in. wide; 1 1/4 in. deep inside with an overall height of 2 1/8 in. 40. Memo tray and clip box 5 3/16 in. by 3 1/4 in. with 1 1/8 in. inside depth. 41. This is the inside rack for the above sewing box (number 42); compartments have a depth of about 1 3/8 in. 42. Sewing box with well designed cover and individual compartments molded into the base of the box; an inside fitted compartment (shown below) sets on these base partitions; the box is 8 11/16 in. in diameter by about 3 1/2 in. overall height

the quantity he will eventually need. Of course, in small quantities of one hundred, these boxes will cost more than in larger quantities but, even so, the expense is often justified by the satisfaction of knowing in advance just what results can be obtained. Sample boxes or containers from a specially designed mold are often very expensive because a single cavity mold must be made and finished and this cost must be absorbed by the manufacturer before any boxes are produced. Changes

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AN IMPORTANT MESSAGE

ABOUT MOLDING FOR THE PACKAGING INDUSTRY

★

The designing of molded closures and packages is a highly specialized field, requiring a complete understanding of molding technique and long experience in dealing with merchandising problems.

Package molding likewise, is a specialized branch of the plastics industry, requiring equipment designed to economically produce this particular type of work.

In both these regards, the great Colt plant is outstandingly a *packager's plant.* Our tremendous production *for the packaging industry* has endowed us with a staff of engineers, designers, merchandise specialists and skilled workers who are keyed to the packager's problems. Our equipment also provides packagers with cost reductions because of its superior efficiency. The vast resources of Colt's manufacturing plants insure continued production and finer workmanship. . . . Because of these manifest advantages, we invite all packagers . . . large and small . . . to consult with us on design and production problems, without obligation.

MANAGER PLASTICS DIVISION
COLT'S PATENT FIRE ARMS MFG. CO.
HARTFORD, CONN.

ESTABLISHED 1836

COLT'S PATENT FIRE ARMS MANUFACTURING CO.

MANUFACTURERS OF

FIRE ARMS — ELECTRICAL EQUIPMENT — MOULDED PLASTICS PRODUCTS
DISH AND METAL CLEANING MACHINES

HARTFORD, CONNECTICUT, U. S. A.

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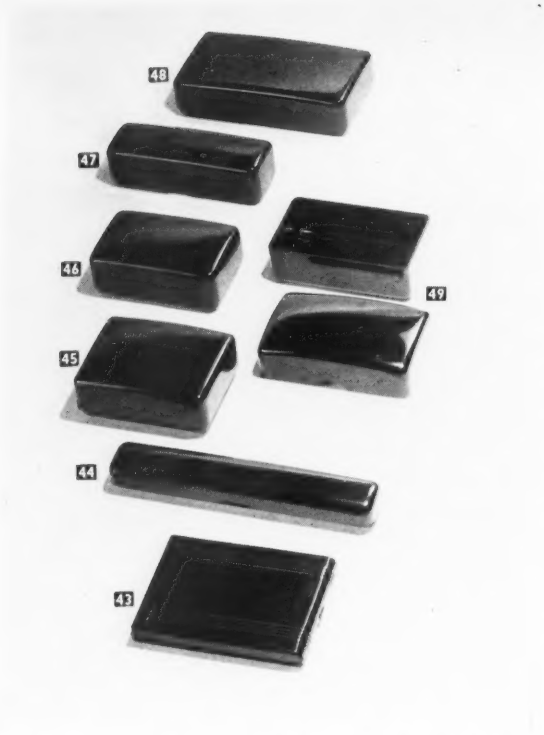


With the exception of number 43, this group of boxes all have full telescope covers. 43. Flat cigaret case with hinged cover; holds ten cigarets with metal clip inside; 3¾ in. by 2¾ in. by ½ in. thick. 44. 6⅝ in. by ⅞ in. by 9/16 in. deep inside; cover has thumb grip. 45. 3⅜ in. by 2 5/16 in. by 1⅛ in. inside. 46. 3½ in. by 2 in. by 1⅛ in. deep inside. 47. 4½ in. by 1¼ in. by 1⅛ in. deep inside. 48. 5 5/16 in. by 2 7/16 in. by 1⅛ in. deep inside. 49. Shown with thumb grip cover removed; 3⅛ in. by 2⅛ in. by 1⅛ in. deep

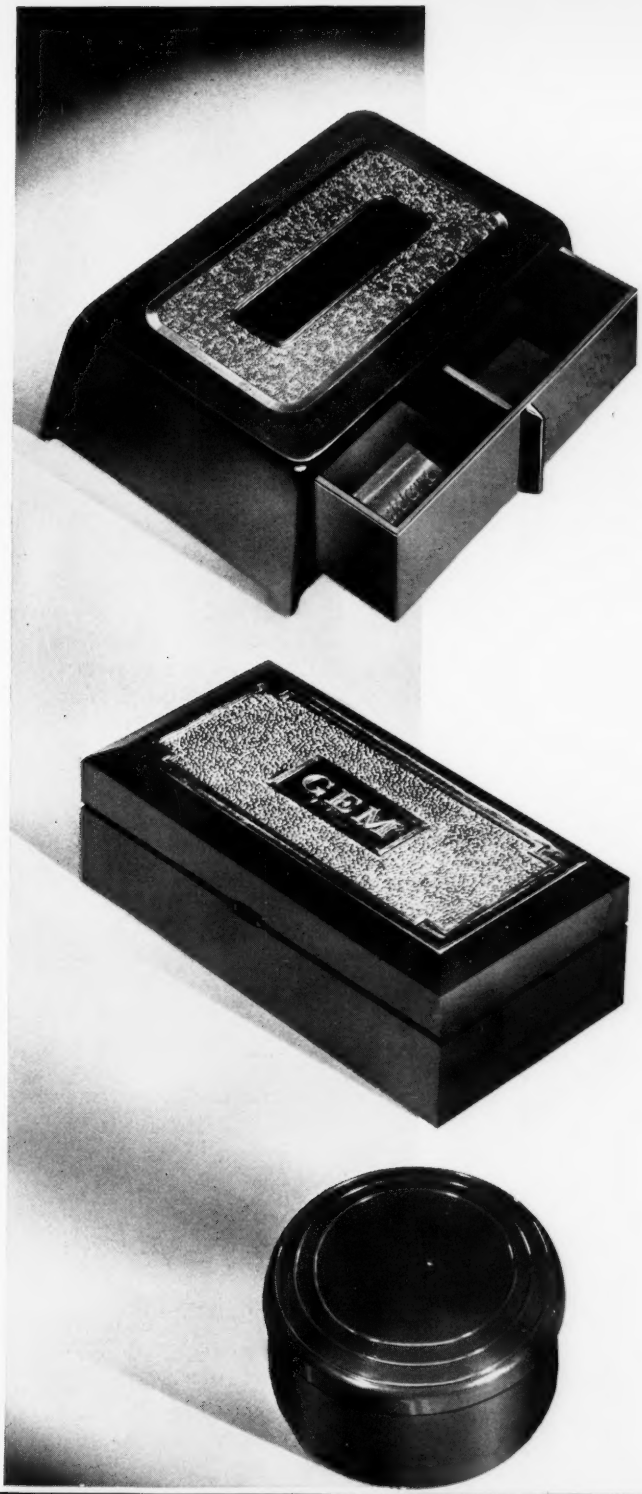
and corrections are likewise expensive. But when containers are made from stock molds that have already been proved, these annoyances and additional expenses are entirely avoided.

Since molds of steel are good for exceedingly long runs of production without appreciable fatigue or wear, there are many of them throughout the country that have served their original purpose and are stored away in molders' shops. Because one of them might have been designed to produce boxes in which safety razors were sold is no reason why it is not equally suitable to hold another product now that the razor is no longer merchandized in that kind of box. Many of these boxes can be fitted with interior compartments at small additional cost and become entirely individual to the merchandise it now contains. Especially is this true if color combinations are changed from those used in molding the original box.

Light and dark colors can be molded from the same mold. Even the cover and bottom of a box may be molded in different colors with the same operation although this requires some ingenuity on the part of the molder and is not usually done. Lighter colors add somewhat to the cost of the box—black, dark brown, green, red and mottled being among the less expensive colors of molding materials. Another thing to be remembered in ordering plastic moldings from stock designs is that this places no handicap upon the buyer in choice of materials. These boxes are not ready-made. They are in no sense old stock. When a manufacturer orders boxes or other items from stock molds he has the privilege of specifying the exact materials he wants used in molding his boxes. This is particularly important in ordering boxes to be used for creams, powders and other cosmetics, and the advice of your molder in the choice of materials should be taken seriously.

The illustrations numbered and described show many of these available containers, but it is suggested that possible users send for samples of any that are considered so that the accuracy of measurements can be checked to be sure those chosen are the kind and type of moldings wanted. Molders will welcome inquiries and cooperate with every assistance they can possibly give in helping to choose the right plastic package for a particular product. The stock moldings illustrated by no means exhaust those available throughout the country. New ones are constantly being added to the list as quickly as they have served their original purposes. Those illustrated, however, will serve as an indication of the possibilities which stock designs offer to those who can adapt their packaging requirements to their use. Keen buyers, with an equally keen sense of imagination, have saved themselves many dollars in mold costs in the past. Stock molds have opened the way to many manufacturers to become plastic users for the first time.

50. Decorated lift-off cover and box; 3 11/16 in. by 3 5/16 in., 1 1/16 in. deep, 1⅜ in. overall. 51. Oblong box with lift-off cover elaborately designed; 11 in. by 3⅜ in.; depth, 2 5/16 in.; overall height, 2¾ in. 52. Oblong box with ornamented hinged cover; 6 7/16 in. by 3 3/16 in.; 1¼ in. inside depth; 1 11/16 in. overall



Molders

By Special Appointment to the PACKAGING TRADE

Far more convincing than any claims we might make, is our actual work. We have produced many important molded packages the last few years—packages that have proved the quality of their design and workmanship by the one supreme test of **sales.**

May we have the opportunity of showing you how we can help **you** in devising an eye-arresting, sales-compelling package or molded kit or specialty? May we not talk over your problem, in concrete terms of design, costs and methods?

We promise that the interview will be interesting . . . that it will not obligate you . . . that we'll leave it to you to judge our qualifications as "Molders by Appointment".

LEADERS IN MOLDED PACKAGING

MACK MOLDING COMPANY

MAIN STREET, WAYNE, N.J.

ADHESIVES IN PACKAGING OPERATIONS

BY D. V. WILLIAMSON

IN MODERN PACKAGING OPERATIONS adhesives are very probably of more importance than is generally realized. The reason for this may be found in the silent and prosaic manner in which adhesives do their work. They are not visible on the finished package and, when they are running smoothly on the packaging machines, they are more or less taken for granted.

Let us consider some of the packaging operations of to-day where adhesives, in one form or another, are necessary:

Manufacture of paper boxes and cartons.
Manufacture of bags using plain or waxed paper, or transparent cellulose sheets, plain or moistureproof.
Manufacture of paper envelopes.
Manufacture of paper tubes and cans.
Manufacture of paper and fibre shipping cases and drums.
Sealing of paper boxes and cartons after they are filled with goods.
Wrapping of filled cartons with printed paper labels, metal foil, or transparent cellulose wraps.
Wrapping of products directly with transparent cellulose sheets and sealing them.
Labeling of cartons and boxes.
Labeling of bottles.
Labeling of cans.
Sealing of fibre and corrugated shipping cases.

The manufacturing and packaging operations above mentioned are performed on highly specialized machines which operate, in many cases, with truly remarkable speeds. On these machine operations, the adhesives used must not only have the property of making satisfactory seals and bonds with the papers, boards or other packaging materials used but they must also function properly on the machines under continuous operation and with an absolute minimum of operating trouble.

On machine packaging operations, these two essentials—ability to make suitable adhesive joints and ability to function properly on the machines—are equally important. The adhesive manufacturer, therefore, should have all essential information before he is asked to prescribe the proper adhesive.

When consideration is given to the multitude of products that are used for packaging today, and in conjunction with which adhesives are used, it will be realized that the selection of suitable adhesives for the particular operation in mind is important. For instance, an adhesive suitable for machine bottle labeling is useless for shipping case sealing. Can labeling adhesives are specialties for that particular purpose only. The same thing is true for adhesives for transparent cellulose sheets, foil, waxed paper, glassine and dozens and dozens of other materials.

Adhesion, primarily, is a matter of surfaces. The first essential in any adhesive operation is chemical attraction of the adhesive to each of the surfaces it is to hold together. For instance glass and phenol resin are both smooth, hard, dense materials and yet glass is easy to adhere to with adhesives while the latter is difficult to hold to. Adhesives which adhere to one will not necessarily adhere to the other because they are different materials from a chemical standpoint and a different type of adhesive is necessary for phenol resin than for glass.

A generation ago the only kind of glue in general use was animal glue. This product is made largely from the hides and bones of animals and is an exceedingly useful commodity in many lines of industry. It has, however, some inherent characteristics which make it of limited value in modern packaging. Among these may be mentioned the fact that it can be used only when heated and that it has a more or less objectionable odor for packaging use.

In the last fifteen or twenty years there has been a great advance in the technology of an entirely different class of adhesives often referred to as vegetable glues since they are derived from vegetable rather than animal sources; chiefly from corn and tapioca. These products can be used cold and are odorless, and the vast majority of the labeling and sealing operations on packaging machinery are performed by such adhesives. When used with most kinds of paper or boxboard they develop a strength of joint in excess of the strength of the materials they join together. They possess, moreover, many other desirable properties for machine operation.

Most of the adhesives for packaging operations are shipped by the adhesive manufacturers in prepared form ready to use, either as liquid glues or heavy bodied pastes, which products do not deteriorate with age. There are sold, however, products known as dry cold water soluble glues. These products are shipped dry and prepared for use by the packaging manufacturer by adding cold water, mixing properly and then waiting for the necessary chemical actions to take place. Properly handled, and in some operations, they can be depended upon to give good results.

The danger, however, lies in careless preparation, improper measurement of quantities, insufficient time allowed for the necessary chemical actions—all factors which experience has shown tend to produce unsatisfactory and non-uniform results. Moreover, such products, in many cases, must be used up in a day or

Adhesives — Wooden Containers — Gummed Tape — Corrugated and Solid Containers — Metal and Wire Strapping — Wire Stitching — Crepe Wadding, Paper Excelsior, Packing Pads, Corrugated Rolls, etc.

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so or they will start to deteriorate on standing. Again, it is a chemical impossibility for the adhesive manufacturer to incorporate in such dry products all of the materials that he can in liquid products. Many ingredients are used in manufacturing prepared liquid adhesives (and which cannot be incorporated in the dry adhesives) with the result that in most cases the prepared adhesives are more satisfactory to the user.

The suitability of the adhesive for its particular operation is of primary importance. That is the factor above all others that makes money for the packaging company because it insures steady, uninterrupted operation of the costly packaging machines with their attendants. It is a matter which, so far as profits to the packaging company are concerned, completely transcends the price of the glue per pound.

Adhesives for Transparent Cellulose

Transparent cellulose wrappings are now being employed in practically every phase of packaging, and with them there has developed an insistent demand for suitable adhesives to use with them. To meet this demand has not been easy because of the many variables and difficulties present. With plain cellulose sheets careful chemical balance must be present in the adhesive used as otherwise the adhesive will attack the sheet and embrittle and weaken it. Excessive puckering of the sheet at the glued joint is another item that will occur if the adhesive is not designed especially for the delicate work required.

There is an important difference between the gluing of paper and boxboard to itself and the gluing of plain cellulose sheets to themselves. With the paper and boxboard thin films of adhesives are desirable; with the latter, thick adhesive films give stronger joints.

It makes a difference, from an adhesive standpoint, whether the operation is that of joining the plain transparent cellulose sheets to themselves, or to paper or to boxboard. An adhesive that gives the best results in the first instance may not also properly perform in the latter case.

With moistureproof cellulose sheets certain difficulties arise. These sheets are made of the plain cellulose material coated on both sides with a very thin layer of moistureproof material and the nature of this coating is such that adhesives designed for the plain sheets offer no adhesion whatever on the moistureproof surfaces. It is possible to use solvent types of adhesives which soften this moistureproof coating and give some adhesion when heated metal plates are pressed down on the glued joint while the film is thus softened. The resulting strength of joint is necessarily rather weak, however, because it is only the outer moistureproof layers that are joined together and the thickness of this layer is but .0001 in.—about one-tenth as thick as that of ordinary tissue paper.

Much stronger joints are possible, however, with adhesives which will penetrate the outer moistureproof layer and take hold of the plain cellulose sheet inside. These adhesives are of such nature that, while they may be applied properly with rolls on machines, they are not suitable for capillary wick action (as is possible with solvent type adhesives) and this is a point for machine manufacturers to bear in mind when designing machines to seal moistureproof cellulose sheets where really strong and reliable joints are desired—as on larger packages which may have to stand up for some months of time and in various climates.

One of the most troublesome difficulties with adhesives for moistureproof cellulose sheets is to produce sufficient initial tack. With few exceptions adhesives for the moistureproof sheets do not offer as quick initial tack as is possible with the plain sheets, or with paper or boxboard. This deficiency in initial tack is cleverly offset in the design of some machines by causing the freshly glued joint to pass electrically heated hot plates, thus immediately enhancing the tackiness. Proper adhesives yield fast production with this method.

Here again, with moistureproof sheets, it makes a great difference as to whether the operation is to join the sheets to themselves or to paper or to board. Some adhesives, which will join the sheets together, have no utility whatever in joining a sheet of paper. It is possible, however, in using the proper adhesive to join the moistureproof cellulose sheets to themselves or to paper or to board, or to waxed board. Incidentally, the moistureproof sheets are not hygroscopic and hence window boxes or envelopes made with them do not warp. They stay flat regardless of weather conditions.

Cellulose acetate sheets are very different, from an adhesive standpoint, from plain cellulose sheets. Different adhesives are needed, but satisfactory ones are available which give excellent results. Here again, however, when these sheets have moistureproof coatings, different adhesives are required.

Some other considerations that offer peculiar difficulties with adhesives for the moistureproof sheets are odor, color and non-stringing characteristics. Satisfactory adhesive results with the moistureproof sheets are being obtained, however, in widely divergent industries and meanwhile constant research is producing better and better adhesives.

Adhesive operations are so diverse in modern packaging methods that there is no such thing as one best glue, any more than, for example, in industry, there is one best paint. There is probably one best kind of paint for any particular operation; similarly with adhesives. The more important characteristics which users of adhesives must consider are listed as follows:

Chemical attraction (not repulsion) to the surfaces to be glued together. Without this essential, adhesion cannot be secured.

Initial tack is usually more important than quick set because if an adhesive has initial tack sufficient to hold a seal down at once and keep it down the time interval for ultimate setting is relatively unimportant.

Quick set is important where the package is subject to stress as soon as it leaves the gluing machine, as is

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often the case with fibre or corrugated shipping cases.

Property of being used without heat.

Freedom from odor is important with food or other products susceptible to odor absorption.

Non-stringing characteristics are particularly important on a reciprocating type of machine which carries glue from a roller over to the package. On "straight line gluing" as on carton-forming machines this is relatively less important.

Property of increasing the tackiness and hastening the set by application of heated plates to the glued joint.

Non-foaming characteristics are important details on high speed machines.

Proper viscosity. Various machine requirements run from adhesives as free flowing as water to heavy bodied pastes that will not flow at all.

Color on transparent wrappings is of importance.

Flexibility is sometimes necessary, other times not.

Being neutral in chemical action is necessary to prevent discoloration of printed wrappers and labels, actual deterioration of wrappers or disintegration of metal containers. These conditions sometimes are only noticeable after a considerable time interval.

Permanency of joint. Weather and climatic conditions vary greatly and tend to affect the strength of some joints. A good adhesive will perform its function and make a good bond regardless of such changes.

Waterproof qualities are sometimes very essential.

Keeping qualities. Proper adhesives do not deteriorate with age.

Cost. This last item, in the matter of adhesives, certainly belongs in the last place in any list. If packaging manufacturers paid twice the prevailing prices for adhesives, the cost of this item would still be very small as compared with other items of packaging expense. But an adhesive that fails to perform its function, slows up a production line or stops it altogether, lets packages open up on customers' shelves a thousand miles away and six months after shipment or gradually discolors labels or corrodes tin cans would be a mighty expensive item to the packaging company if it paid nothing a gallon for it.

The manufacture of adhesives is an intricate business and the best policy for the owner or operator of modern, costly, high speed packaging machines is to state his particular problem in all its details to a reliable adhesive manufacturer who can be of real help to him out of his experience and who can supply him regularly, month in, month out, with suitable and uniform products that will perform efficiently.

WOODEN BOXES FOR PACKING

BY C. M. BONNELL, JR.

WOODEN BOXES are divided into several classes, according to the construction of the ends. The various boxes are designated as Styles 1, 2, 2½, 3, 4, 5, 6, 7 and 8. Styles 1 to 5, inclusive, are nailed wooden boxes, while Styles 6, 7 and 8 are of the lock-corner type, varying only according to the type of cover.

Many special styles of boxes have been developed for particular conditions and commodities. Whether or not a returnable box should be adopted for carrying a commodity depends wholly upon the economic phases of the problem. Returnable boxes, if made collapsible, occupy less space in shipment and storage when empty, although such a construction does not permit of as much rigidity as in the non-collapsible returnable type. Style 1 boxes are the least expensive of any of the standard nailed wooden boxes, although they possess certain weaknesses which may render them objectionable when a very serviceable container is required. One of the common failures in this type of box is the splitting of the ends and sides with the grain of the wood, or of the failure at the joints due to nail pulling, because the nails through the sides are driven into the end grain of the ends instead of the side grain.

The principal weaknesses in the Style 1 box are overcome by constructing according to the Style 4 or Style 5 principle, both of which are similar except that Style 5 has the vertical cleats placed on the inside of the box.

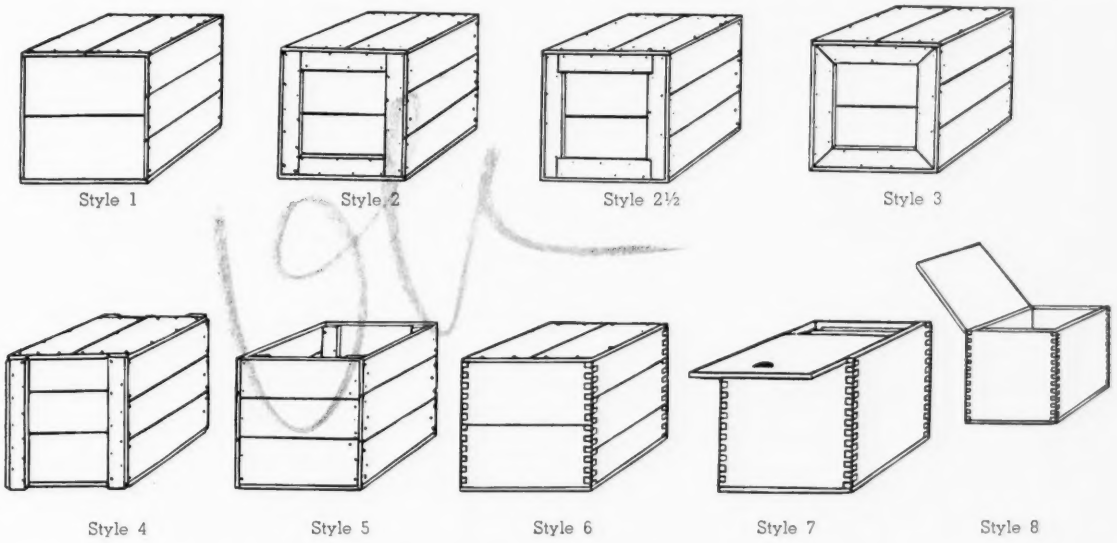
This construction prevents the box ends from splitting and supplements the holding power of the nails driven through the sides into the end grain of the end, because some of these nails can be driven through the sides into the side grain of the cleats. In the Style 4 box the cleats should be long enough to come nearly flush with the outer surfaces of the top and bottom. Likewise, on the Style 5 box the inside cleats should be slightly shorter than the inside depth of the box so that if the sides and ends shrink the cleats will not cause an opening of the joints between the bottom and the ends and thus weaken the box.

An improvement over the Style 4 or 5 box is Style 2, which has two vertical and two horizontal cleats on each end. Variations of the Style 2 box are Styles 2½ and 3, and while certain claims are made for these two over Style 2, there is little difference in the durability of all three of these styles with 4 cleats per end. Style 2½ has the advantage that when the bottom and top

are being nailed to the ends the notches on the vertical cleats take the thrust that would otherwise come on the nails holding the horizontal cleats to the end. Style 3 has the advantage that if the box has square ends all of the four cleats will be of the same length, thus making them interchangeable.

In addition to the five standard styles of nailed wooden boxes there are three standard styles of *lock corner* boxes known as Styles 6, 7 and 8, respectively. Style 6 in this group is the common and most used type.

These boxes are of the type in which the sides and ends are joined by a series of tenons cut in each end of the interlocking pieces. The joints or locks are held together by gluing and the top or bottom as in the Style 6 are nailed on. Styles 7 and 8, as will be noted by the illustrations, have the bottoms held in place by nailing while the top in the Style 7 has a sliding lid or cover and in the Style 8 the top is hinged.



Style 1: Nailed wooden box; uncleated ends, sides held by end grain nailing. Style 2: Nailed wooden box; double cleated ends eliminate weaknesses found in Styles 1, 4 and 5. Styles 2½ and 3: Variations of Style 2 box. Style 4: Nailed wooden box; outside cleats. Style 5: Nailed wooden box; inside cleats. Style 6: Lock corner box; cover and bottom held in place by nailing. Styles 7 and 8: Variations of Style 6 box

GUMMED PAPER AND GUMMED TAPE

BY EDGAR A. CLARK

AT ONE TIME or another several different types of processes have been employed to transfer liquid glue to the surface of cloth and paper. In the very early days of gumming the adhesive was prepared from one part of gum arabic to two parts of cold water, while a weaker solution was three parts of water, ten per cent honey and ten per cent glycerine. Originally the solution was applied with a sponge and the sheets of paper allowed to dry. Cold water was used in preparing the solution, as it kept the paper from cockling. Then followed crude machines for applying the adhesive and constant improvements since then have been made, not only in machines but also in solutions.

Today's machines apply the glue to the base stock most uniformly, of any determined thickness. The squeeze process, which is running the stock through metal rolls and the double roll transfer system is mostly used. In the double roll process, glue is picked up by the bottom roll, then picked up by the top roll and transferred to the paper running over it.

The three principal glues for making up a wide range of glue formulas (which are known as mixes) are fish, animal, dextrine. When these glues are used in number one quality nothing finer can be produced.

Dextrine is a soluble gumming substance formed from starch—it varies from a "white dextrine" composed mostly of thin boiling starch, to a highly converted brown dextrine containing an excessive amount

of glucose—the cheaper dextrines are made from corn starch, the better from sago flour and tapioca flour. Tapioca dextrine from a good grade of flour is clear, with a sweet, agreeable odor. Dextrine solutions are seldom made up for a long period use.

Animal glue, as the name implies is obtained by boiling to a jelly the hoofs, bones, skins, etc. of animals. Cold water should be used in making glue solutions. At high temperatures very little water is taken up by the glue, and at high temperatures a longer period of heating is required. Glue should soak in cold water until uniformly swollen to the maximum swelling but not allowed to set to a solid mass. Some materials used by manufacturers for preserving are alum, zinc oxide, calcium chloride, glycerine, corn syrup, etc. "Fish" glue also suggests its origin.

Contrary to some opinions, it is not the amount of glue that is put on the paper but the quality of the mix that allows instant and permanent adhesion in all kinds of weather. Flat gummed papers are carried in stock 17x22—500 and 20x25—500, or in double reams 22x34—500 and 25x40—500. Several different gummings are furnished; the cheapest from dextrines, which will stick to many smooth surfaces but has not the adhesive properties of the more expensive mixes. Flat gummed papers are used for labels of every description, printed and embossed. One of the most essential requirements is that the paper lay flat—to assist in keeping the gummed paper uniform in moisture content the modern printing plant has humidity and temperature conditions controlled.

There are hundreds of uses for gummed paper and cloth, as gummed tag stock, teletype gummed tape, stay tape, veneer tapes, hollands, etc., etc.

The essential properties of gummed papers are positive adhesion, smoothness, tensile strength, bursting and tearing strength, sizing, evenness of structure, flexibility, and not of less importance "durability," the latter being the papers' property to keep its strength without change for a considerable time.

The quality of paper for making the best gummed papers depends on certain properties, which should be decided on both qualitatively and quantitatively. The process of preparing the pulp, quality of the fibre, its length are factors that must be considered in obtaining pliability and strength.

As a base for the greater tonnage of gummed tape used in moistening machines, kraft paper is used and here also the raw stock governs considerably the performance of the finished product.

From large or jumbo rolls of gummed kraft paper, smaller rolls of any desired width are slit—used mostly in 35 lb., 60 lb. and 90 lb. weights basis 24x36—480 before gumming. Another form of gummed tape is known as stay paper and is used in the construction of set-up boxes in 90 lb., 100 lb. and 120 lb. weights, the most popular width being 7/8 in. Also used in large quantities are other types of gummed tapes which have a foundation or base of cloth, holland, cambric, and paper and cloth combined.

A tremendous amount of gummed tape is used in sealing various size cartons and packages—much of this tape is printed as it is an added protection against pilferage and of great advertising value.

There are several moistening machines on the market operated by hand or automatically for shipping rooms and retail counters. Their essential requisites are uniform application of water, clean and accurate cutting of the tape, and speed—quick delivery of any length tape moistened thoroughly all the way through the film of glue, from edge to edge and end to end.

Good glues grip quickly and firmly if properly moistened and the gummed paper or cloth is applied correctly to the surface desired.

The taping of corrugated and fibre containers adds greatly to their strength, increases safety of contents in transit, produces neater packages and at a delivered cost under any other method for as safe protection.

Every moistening machine manufacturer will gladly furnish instructions as to how to tape packages correctly, fibre or corrugated containers in the cheapest and strongest way.

CORRUGATED AND SOLID FIBRE CONTAINERS

BY J. D. MALCOLMSON

A FIBRE shipping container is a tough, efficient and economical outer package built to withstand the wear and tear of freight, express and parcel post shipment. It is used for shipping all manner of commodities up to a weight limit of ninety pounds. There are two types of these boxes, both equally popular—the laminated walled "solid fibre" box and the cellular "double faced corrugated" box.

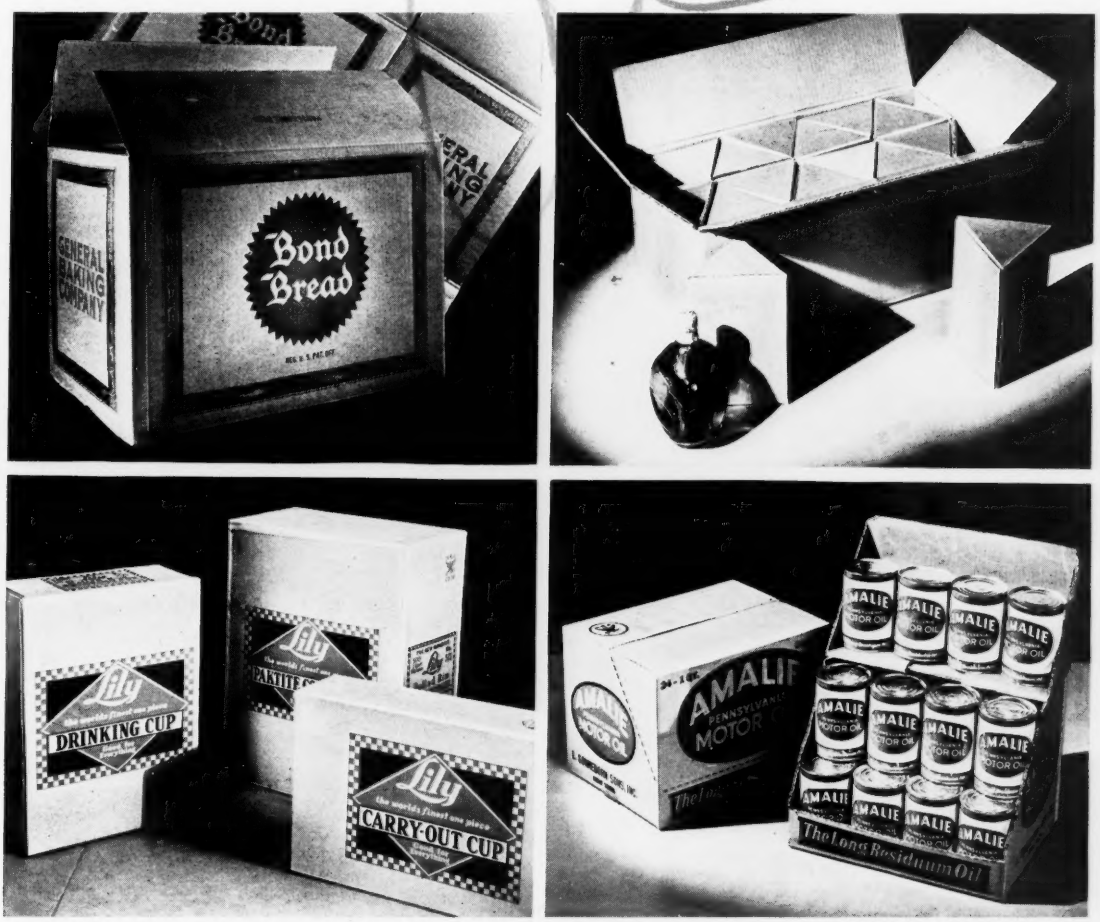
The fibre container is an evolution, partly of the ordinary paper carton, and partly of the familiar corrugated straw sheet, used, among other things, as a wrapper for bottles and incandescent lamps. Corrugated paper itself has been in use for some fifty years as an interior packing and wrapping material. More recently, one face and then two were glued to this corrugated sheet to make a rigid board; but it was not until 1903

that experimental freight shipments were made in boxes built from this combined material. In 1906 the general use of fibre containers for freight shipments was authorized by the railroads, and this marked the real start of the fibre container industry.

Economically considered, the fibre box is an important factor in forest conservation, inasmuch as only about one-sixth of its raw material is new wood pulp, the balance being largely reworked waste paper. This waste paper, moreover, usually contains a fair proportion of old fibre boxes which have outlived their period of usefulness and have found their way back to the paper mill. These savings are in addition to the billions of feet of lumber for wooden boxes that are replaced.

The average fibre box weighs only from two to three pounds, which means a reduction of shipping weight anywhere from 10 to 50 per cent when compared with the same size wooden boxes. It is shipped flat when empty, and in this form occupies about one-tenth of the space it will contain when set up.

The fibre container affords a satisfactory means for shipping fragile articles, as well as heavy commodities of relatively small size. Liquids in glass, for instance, are moved in these boxes with a minimum of breakage. The bottles are usually packed in cells formed by partitions of corrugated fibreboard. Another method of packing which is in greater demand is the "unit carton" system. Articles such as electric irons, lamp fixtures, etc., are placed in an individual carton, which also contains the necessary accessories. A certain number of these cartons, say, two dozen, are then shipped in a container, so designed that the contents exactly fill the box. The advantages of this system are that breakage is practically eliminated, the goods are received by the retailer in an attractive condition for displaying on his shelves, and the customer receives the article with its accessory fittings in a convenient and expeditious manner. Many of the larger box makers maintain elaborate designing departments, which are devoted to the devising of new and better methods of packing.



Corrugated and solid fibre containers. Top left: Corrugated fibre shipping container or "corrugated case," made of single strength, double faced corrugated board. Below: Stitched solid fibre shipping container. Top right: Corrugated container, showing interior packing, also of corrugated board. Below: Corrugated shipping case with score lines that permit cutting and folding back, thus forming a floor or counter display

The advantages which are claimed for the use of fibre containers are as follows:

First Cost—Being largely made from waste products in large quantities, their first cost is relatively low as

compared with other types and styles of containers.

Weight—Tare weights are relatively low, resulting in freight savings on shipments as well as on incoming supplies of boxes.

Convenience—The absence of nails and splinters prevents injury to hands or clothing in packing and invites freight handlers to lay aside their hooks. It's relatively small size, which is controlled by railroad requirements, makes for easy handling in shipment and storage. It is often used as a shelf package and as a unit package for delivery to the ultimate consumer without opening and re-packing.

Storage—Fibre containers are delivered flat and are stored in a minimum of space. Approximately ten of these flat cases can be stored in the space occupied by one of them when set up.

Concealed Theft is minimized, as the case, when properly sealed, must be practically destroyed to open.

Sealing is very economical, due to the development of automatic sealing machines described elsewhere.

Advertising—Being a paper product, these cases are susceptible to high grade printing in one or more colors and form a traveling billboard as long as they are in existence.

Sanitary Features—These cases are used new and seldom re-used. Paper linings are not necessary and dust and dirt find no access.

Accuracy—Shrinkage, warping, swelling unknown.

Conservation—Timberlands are conserved as only a small proportion of the box consists of new wood pulp. The balance of the material includes discarded boxes re-worked into new paper.

Stacking—These boxes, due to the combination of light weight and rigid walls, can be stacked to the roof of most warehouses.

Nomenclature

Much time and correspondence are wasted through different ideas of terminology. This is in part due to the rapid growth of this industry which has not had time to evolve a standardized vocabularly.

The following list is by no means complete but it does contain most of the terms which are subject to misinterpretation:

Fibre Containers—The general term which includes both corrugated and solid fibre cases. The words "fibre" or "fibre boxes" are often used to designate solid fibre boxes, but this is open to misconstruction.

Corrugated Fibre Containers, or usually simply "corrugated cases," generally indicates boxes made of single strength, double faced corrugated board.

Corrugated Board is a general term and may mean any of the grades named below.

Unlined Corrugated is the corrugated paper alone with no "liners" or "facings." It is usually made of 0.009 in. straw but sometimes is 0.009 in. chip and unless otherwise specified, is the usual or large corrugation, 3/16 in. in height. It is used as wrapping material for lamp chimneys, etc., and has the disadvantage of stretching and thus losing the cushion value of the corrugations. It usually comes in rolls.

Single Faced Board has one liner which may be of straw, chip or jute and usually either 0.009 in., 0.012 in. or 0.016 in. thick. It is used for inner packing and wrapping and is usually sold in rolls 36 in. wide, 250 ft. long, weighing from 60 to 75 lbs.

Double Faced Board, or double lined corrugated, is made with two liners of straw, chip, jute or kraft and is described by the railroads as "single strength." It may be test or non-test board and cannot be rolled.

Double Strength Board is often spoken of as "double double" and "double walled," but the term "double strength" is preferable, as this is the designation used by the railroads. It is a combination of double face and single face, having three liners and two corrugations and is from $\frac{3}{8}$ in. to $\frac{1}{4}$ in. thick.

Straw Paper or "Strawboard," used for corrugations, is 100 per cent wheat straw, although rye, oat and rice straws are occasionally used. Strawboard is sometimes imported from Europe, usually from Holland. It is generally made 0.009 in. thick, for corrugating, although 0.012 in. or heavier is sometimes used for this purpose. Chestnut waste, sulphate, sulphite and fine wood fibreboard is also permitted by the railroads for corrugations, but the production of these materials is relatively small.

Chip, or Chip Board, is made from mixed waste papers and is usually 0.009 in., 0.012 in. or 0.016 in. thick. Corrugated board with chip liners is usually used for interior packing.

News, or News Board, is made of newspapers and is sometimes used in place of chip, though more expensive. The other grades of boxboard do not enter, to any great extent, in the making of shipping containers.

Liners are the facings of single face, double face or double strength corrugated board. They may be 0.009 in., 0.012 in. or 0.016 in. chip or 0.016 in., 0.018 in., 0.023 in. or 0.030 in. jute or kraft. Solid fibre liners are usually 0.016 in. jute or kraft. "Liner" is also used to describe the interior packing sheet which lines the four sides of a case and which is usually made of double faced chip or straw corrugated board. This liner is usually made in one piece with three vertical creases but unjoined.

Jute is really a misnomer, as jute is no longer used in this industry. A "jute" liner is a mixture of new kraft or sulphate fibres and high grade mixed papers.

Filled Kraft Liners—These are kraft liners with a small proportion of waste paper or groundwood added.

All-Kraft Liners—These contain no mixed papers but are usually made entirely of sulphate. They are among the new developments that are to be found.

Solid Fibre is a laminated board built by gluing several piles of board together with silicate of soda and is often referred to as "fibre" or "fibreboard." (See *Fibre Containers.*) The two outer plies are made of jute or kraft. Solid fibre is usually made in 0.060 in., 0.080 in., and 0.100 in. thicknesses as called for in the Classification, but some 0.090 in. and 0.120 in. board is

ACME STEEL COMPANY

General Offices: 2834 Archer Avenue, CHICAGO

103 Park Avenue, NEW YORK CITY
114 Railroad Ave., So., SEATTLE
National Cartage Warehouse, TORONTO
603 Stewart Ave., S. W., ATLANTA
202 Davis St., SAN FRANCISCO
365 St. Paul Street W., MONTREAL

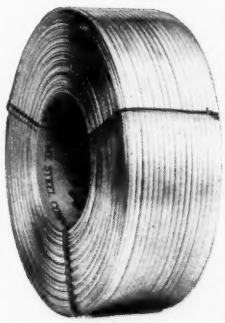
Manufacturers of Galvanized Stitching Wire, Steelstrap and Strapping Equipment, Stainless and Galvanized Steel Conveyor Belts

Doc. *Steelstrap*

ACME *SilverStitch*

REG U.S. PAT OFF

STITCHING WIRE FOR FIBRE BOXES



One-Piece
5 and 10-pound coils

Tape makes removal of first coil easy

Stainless stitching with Silverstitch

Silverstitch is the finest on the market—is more widely used than any other. It offers three important advantages:

1. Unvarying accuracy in temper, width and thickness.
2. Continuous length, full weight 5 and 10-lb. coils.
3. Galvanized finish that gives greatest resistance to rust.

Stainless. With galvanized, rust-resisting Silverstitch, boxes remain clean and free from rust stains. Valuable for soap, food, candy boxes, etc. Liners can be eliminated.

For cartons containing acidiferous products, Acme "Blue Label" Silverstitch—a super quality highly rust resisting wire is offered.

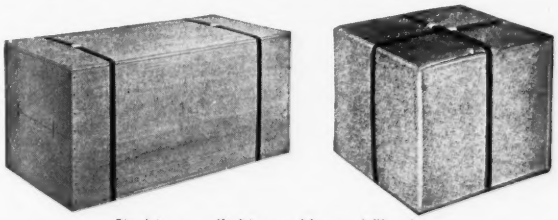
Improved Packing. Silverstitch is now shipped in a new and improved package. The lid on the box is in one piece—is not nailed down, but strapped on, providing new ease of opening when strap is cut. A "lifting tape" removes the first coil from the snugly fitting pack. A fibre disc keeps each coil in shape and prevents tangling.

Silverstitch is preferred in the 10-lb. coil, that cuts coil changing, and machine-threading time in half. Acme Silverstitch is made in the following sizes: .103 x .014, .103 x .017, .103 x .020, .103 x .023, .060 x .024, and .060 x .0205.

Send for free 5-lb. coil. Test this superior stitching wire in your plant, without obligation.

Acme Steelstrap PACKAGE REINFORCING

Fast, efficient and economical, Acme Steelstrap provides increased shipping protection for both wood and fibre boxes. The Acme Seal makes one of the strongest joints that can be secured through the use of a mechanical hand sealing machine.



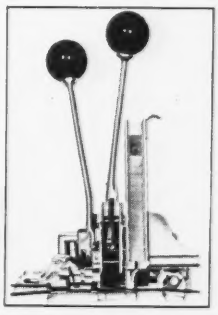
Steelstrap applied to wood box and fibre box

Sealed Joint of Acme Steelstrap

The extra reinforcement, provided with Steelstrap, often permits lighter containers and greater economy in both package and shipping costs.

Bundling Small Packages. In numerous cases, manufacturers economize by using Steelstrap to tie small packages into one unit—gaining a more advantageous express classification. Write today for Doc Steelstrap's new STRAP-BOOK—telling many ways to cure costly shipping ills.

5 Fibre Boxes Bundled with Steelstrap



THE ACME *Steelstrapper*

THE HANDIEST BOX STRAPPING TOOL MADE

For easier, more efficient reinforcing of wood and fibre boxes. The Steelstrapper is a one-unit tool—the only tool with Automatic Seal Feed—100 seals in the magazine. *One, two* . . . and the job is done—faster and better than ever before. Perfectly aligned strap is automatically insured. Write today for new literature describing this finest of all strapping tools.

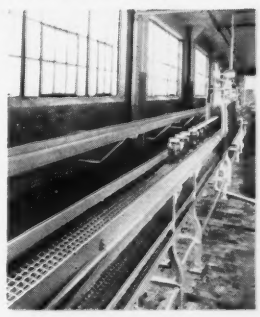
ACME STEEL-MESH CONVEYORS

(In Stainless Steel or Electro-Galvanized Finish)

Acme Steel-Mesh Conveyor Belting is especially adapted for conveying products through drying ovens; for sorting, assembling, washing, and many other manufacturing operations. The open mesh allows free circulation of air, heat, water, and steam. Products may be washed, cooled, sprayed, etc.

Acme Conveyor Belting is economical and is known for its long life under gruelling conditions. Worn sections are easily replaced. It may be lengthened or shortened by a simple operation. Not affected by alternate drying and wetting.

Acme Belting may be obtained in any length, and in widths of approximately 4 to 60 inches in multiples of 2 inches. Write for illustrated data.



Acme Stainless Steel-Mesh Conveyor Belts give long and satisfactory service in this food plant because they are immune to the corrosive action of pickle brine. Because they are manufactured of stainless steel throughout, they remain bright and shiny, and are easy to keep clean

XUM

IF IT'S A FASTENING OR ASSEMBLING JOB

STAPLEcraft WILL DO IT

CHEAPER.
BETTER.
FASTER.

CLICK CLICK THAT'S THE SPEED OF STAPLEcraft

YOU COULDN'T PUSH A NEEDLE IN AND OUT OF FABRIC IN THAT TIME

Wherever you sew in your present production set-up, the chances are that a staple will do the job cheaper, better and faster—whether it's a temporary or permanent job. Caps, upholstery, clothing tags, garters, gloves—in fact anything you can push a needle through can be stapled—and a staple makes no larger hole than a needle. STAPLECRAFT is the production man's magic tool with a thousand tricks.

YOU COULDN'T GET A FIRM GRIP ON THE GLUE BRUSH BEFORE THE DEADLY ACCURACY OF A STAPLE DOES THE JOB

Wherever you have a tricky fastening job, when glue seems to be the only solution—try STAPLECRAFT. It has simplified production problems on such things as box linings, cartons, silk umbrella cords, attaching swatches or samples to cards, labels to shipping cases, etc. and where it is necessary to establish a definite position in the process of fastening, STAPLECRAFT takes all the guess-work out. No stickiness—no wrinkling with staples.

AS FOR TACKS, YOUR HAMMER WOULD STILL BE IN THE AIR WHILE THE STAPLE'S TERSE CLICK SOUNDED

On such things as belts, carrying cases, lamp shades, etc., STAPLECRAFT beats tacking or riveting in every way. From the finest wire to big, broad, flat wire—we make staples of many metals, in many widths and styles, flat, humped or round top clinching in many different ways.

That's why we say:

"If it's a fastening job—STAPLECRAFT—will do it"

YOU COULDN'T TEAR ONE LENGTH OF STICKY TAPE BEFORE YOU CAN DRIVE A STAPLE THAT OUT-HOLDS THE CARTON

In assembling cartons and packages, carding of all kinds, including glass vials, lip sticks and kindred operations, STAPLECRAFT gives you speed, economy and a better job.

Equipment is inexpensive—can be rented in a number of cases, requiring no investment on your part, and can be made in portable type machines. Whatever your production problems are, our Engineering Service is at your disposal. Send us samples of your materials describing your present operations. We'll show you how to apply STAPLECRAFT without any obligation on your part.

STAPLEcraft EQUIPMENT

HAND POWER
$5 TO $25

FOOT POWER
$42.50 TO $100

MOTORIZED
$85 AND UP

ACME STAPLE COMPANY

1641 HADDON AVE. CAMDEN N.J.

XUM

occasionally used in the making of shipping containers.

Single-Lined Solid Fibre—This is not often used for shipping containers but is applicable where only a single bender is required and permitted.

Test and Non-Test Board—In this industry this usually applies to board that does or does not comply with the railroad requirements on bursting strength.

Express Stock—The correct name of this corrugated board is *jute and chip* which describes its construction. At one time this was acceptable for express shipments. The express rules are now essentially the same as the freight rules except that for most items of less than 35 lbs., jute and chip may still be used.

Mullen or Cady Test—These two instruments register the bursting strength of a board, presumably in terms of pounds per square inch. Actually the results are not exactly in these proportions and for this reason many people refer to the figures as Mullen "points" or "units." Both of these instruments are official as shown in and established by Rule 41.

Webb Tester—This instrument overcomes many of the objections to the Mullen and Cady test by testing the liners of double face corrugated board separately, but it is not recognized as official by the railroads.

Rule 41 is that part of the Official Classification which itemizes the specifications for corrugated and fibre shipping containers when used for freight shipments. *Rule* 18—This does the same for express shipments in the Official Express Classification.

The Bureau of Explosives, 30 Vesey Street, New York City, issues a handbook containing express and freight container specifications for dangerous articles.

Food Administration Specifications—These are the same as the so-called *National Canners Association Specifications* and specify higher test corrugated and solid fibre cases for canned goods than are required by the railroads. They are regarded as being unofficial.

Certificate of Box Maker—This is sometimes known as the "Imprint."

The following list is not complete but covers the most important styles of boxes:

Regular Slotted Carton (RSC)—Most containers, especially for freight shipments, are made in this style because of the economy of using a straight cut blank. All flaps are the same length and the inner flaps do not meet unless the length and width are the same.

Special Slotted Carton—All Flaps Meet—Also called "Center Special Slotted Carton." This is more expensive as inner and outer flaps are of different lengths, necessitating an extra manufacturing operation with a loss of stock.

Full Overlap Slotted Carton—Also known as "Full Flap S. C." The length of the outer flaps is the same as the width of the box. The inner flaps may meet, gap or overlap. This style is usually desirable on a long narrow box and gives added strength to any shaped container.

One-Piece Folder—This has flaps at top only and is used to pack flat material such as advertising cutouts.

Cracker Caddy—This is a special container. Usually about 10 in. x 10 in. x 11 in., made of a moisture- and grease-proof board combination. It is occasionally referred to as "can" or a "qu."

Silicate of Soda—This is an adhesive sometimes used for sealing containers and also used in the manufacture of corrugated and solid fibre board. Another name is *water glass* and it is referred to as simply "silicate."

Point—In this industry a "point" is one thousandth of an inch; 0.060 in. board is spoken of as "sixty point" board.

Height—Depth—These synonymous words indicate the distance between the openings of a box, i.e., from top to bottom. "Height" is preferable as in some industries "depth" means from front to rear. The height of a slotted carton is always the last dimension.

Girth is used in the parcel post specifications as the distance around the parcel at its thickest part.

Length in these P. O. specifications is the greatest distance in a straight line between two ends.

Nests, or Partitions, are slotted half way so that they interlock. A *Divider* is a vertical pad with no slots.

Star Cut Pad—This corrugated pad has radiating die cuts and is used to separate large glass objects, such as bowls and illuminating glassware. It is also known by such descriptive and imaginative terms as "rat trap pad" and "pie cut pad."

Die Cut Work is made on a special press and the initial cost of the die and extra make-ready must be allowed for. The ordinary fibre box equipment works in straight lines, at right angles, so that other unusual work is made on a separate cutting and creasing press.

Crease and Score are used interchangeably but "Crease" is preferable as "Score" may mean a knife cut, as it does in the set-up box industry. Such a cut score is not used in the fibre container industry.

Joint and Seam—The railroads define "joint" as the result of the operation done by the box maker in taping or stitching the fourth corner of the box; and "seam" as the juncture that is closed by tape in sealing.

Bales and Bundles—This refers to Section 4 (*c*) of Rule 5 and means that items accepted under this category may be shipped in corrugated or solid fibre containers *without* restrictions as to weight or dimensions.

Printing Plates—Solid fibre is printed from brass plates or electrotypes. Corrugated board is printed from rubber plates which are cast from type or from a wood cut.

"A" Flute Corrugation is approximately 3/16 in. high, 36 to the foot; *"B" Flute Corrugation* is approximately 1/8 in. high, 50 to the foot.

Patented Types of Fibre Containers

Almost an endless number of unusual boxes have been patented, advertised and finally forgotten. Most of these are either impracticable or too expensive for the purpose intended. Those in the limelight at the present time are:

The Reinforced Score Box—A corrugated container with a strip of tape glued over the score-line, either on

the inner liner or inside the board. Three different companies have patents on variations of this idea.

The Reinforced Tape Joint, in which the ends of the tape on the manufacturer's joint is split and tucked under at each end.

Burlap-Covered Box—This is a corrugated box with an outer covering of burlap cemented on with asphalt. This box, because of its strength and moistureproof qualities, is suitable for export use.

Recessed End Box—The ends of this solid fibre box, recessed, are strengthened by the resulting stitched rim.

Bliss Box—This type of fibre container, designed by the H. R. Bliss Company of Niagara Falls, N. Y., consists of a three-piece box made of solid fibre or corrugated board. The blanks are joined by means of flanges stitched in place, which reinforce the corners and all vertical seams. It is claimed that the corners and vertical edges are the vital parts of the fibre box and that when reinforced by stitched flanges, the resulting box is much better fitted to withstand the shocks and strain of handling and of transit. The box is also more rigid and can be stacked higher without bulging.

TYPES AND METHODS OF METAL STRAPPING

BY C. S. HENDERSON

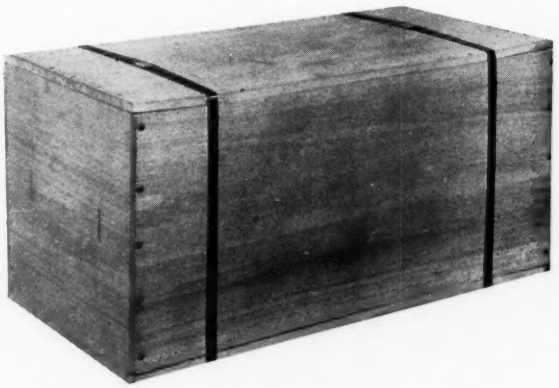
PROBABLY no other material has been such a potent force for economy in packing as has metal strapping. It lends reinforcement to both wood and fibre containers and upon its strength depends the success of baling. Many novel and ingenious applications serve the shipper. The Government not only approves[1] of the use of metal strapping but permits a decided economy in the specifications for a container which is to be properly reinforced with metal strapping. This economy, in the case of wooden boxes, runs from 20 to 35 per cent. It is to be noted that Freight Classification Rules require its use on bundles and bales, as well as on many specific articles. While the largest part of the metal strapping manufactured is used on domestic shipments, Steamship Freight Classification requires practically everything reinforced.

Broadly speaking, metal strapping consists of two kinds: Nailed and Nailless. The former, as its name implies, is nailed on, whereas the latter is applied tightly about a container and the ends fastened together. Due to its speed and greater efficiency, the nailless system is much preferred. All strapping should be treated to prevent rust and corrosion and the two methods currently employed to accomplish this are painting and galvanizing.

The proper material to use and the most efficient system of application depend not only on the package, its size, weight and material, but also upon many other factors. Notable among these are the conditions surrounding the actual packing and loading, as well as the particular transportation hazards to which the package will be subjected. While there are several methods of application and a variety of equipment available to the shipper, it is recommended that a prospective user consult the strapping manufacturer's packing specialists for advice and suggestions regarding the use of their products.

Metal Strapping of Boxes

Both wood and fibre boxes are stronger and safer when metal strapped. This reinforcement about containers carrying heavy loads takes the explosive force



Steel strapping as applied to wooden boxes

of the shock when the package is dropped or roughly handled. It is customary to apply it about the sides, top and bottom and one or more straps are used. When one is applied it is usually placed about the center of the girth. When two are used one is spaced one-sixth the length of the box from each end. Not the least important service rendered by nailless strapping is its prevention of pilferage and concealed loss. In connection with this it is interesting to note that trademarked seals quickly identify the shipper's band.

The degree of tension to be used depends on the type of box strapped. For wooden containers, sufficient

[1] *Federal Standards Stock Catalog,* Sec 4, Part 5 (NN-B-621).

BLISS BOXES

THE SAFEST SHIPPING CONTAINER

Packing goods in BLISS BOXES assures the manufacturer of the greatest possible margin of safety to his goods while stored and in transit. The three-piece construction, with all vertical seams reinforced, makes the BLISS BOX the strongest corrugated or solid fibre container obtainable.

The special method of construction of the Bliss Box offers greatly increased resistance to all types of stresses, whether from within or without the box.

The various types of Bliss Boxes comply with all of the requirements of Rule 41 of the Consolidated Freight Classification.

LOW IN COST

Bliss Boxes are economical because they contain no waste stock. The saving in material and freight charges reduces the total cost an average of 10% and in some instances as much as 20% when compared with other types of fibre containers. The extra strength of the BLISS BOX also often permits the use of lighter board which effects an additional saving.

EASY TO OBTAIN, ASSEMBLE AND SEAL

Blanks for BLISS BOXES are manufactured under license by nearly all leading board mills and box factories in the United States and Canada and are therefore as readily obtainable as other types of shipping containers. A complete list of licensed manufacturers will be furnished on request.

Equipment for easy, convenient assembling and sealing of BLISS BOXES is furnished by the Dexter Folder Company, a fifty-three-year-old concern, with sales and service offices in New York, Chicago, Philadelphia, Boston, Cleveland, St. Louis, San Francisco, Los Angeles and Seattle.

USE OF BLISS BOXES INCREASING

The BLISS BOX is a comparatively new development in the shipping field, yet it has proved its value to such an extent that over 35,000,000 boxes were used last year. Some of the users are:

14 of the largest Meat Packers
11 prominent Shoe Manufacturers
10 Food and Canned Products Companies
4 nationally known Cereal Companies
2 Chemical Companies
5 Match Companies
4 of the Toilet Paper Companies
5 representative manufacturers of textiles, shipping goods up to 500 lbs. per box

WE CAN ANSWER THESE QUESTIONS

Are we shipping in containers best adapted to our goods?

Can we obtain a stronger container that will not crush in warehouse or car, at the same cost?

Can we save money on a container that is equally as good as those we now use?

Will a different container save in freight costs?

Are our containers the most convenient shape for filling and handling?

Is there a container that is more pilfer proof?

Can we obtain modern, high speed equipment for economically assembling and sealing a variety of sizes?

Dexter men who have a wide knowledge of shipping requirements for many products will be pleased to answer questions at your request and convenience.

DEXTER FOLDER COMPANY

28 West 23rd Street, New York, N. Y.

TYPES OF BLISS BOXES

BLISS NO. 2 BOX

Fig. 21. No. 2 Bliss Box—Open

Fig. 22. No. 2 Bliss Box Blanks

Fig. 23. No. 2 Bliss Box—Sealed

The Bliss No. 2 three-piece box represents the maximum saving in material. In this style the stitching flanges are a part of the end panels. When assembled, the flanges form a double thickness of board on all vertical seams and on horizontal seams at each end of the box. Grain of board may be run vertically or horizontally. This construction concentrates strength at the edges and corners to withstand rough handling in stacking and transit. The strength of this style box is adequate for a great variety of products.

Illustration shows box with overlap in center. This box may also be made with overlap at the side, using the same size body blank.

Where large quantities of boxes are used, they are assembled by wire stitching on the Bliss Double Head Assembly Stitcher. Where only a few hundred cases per day are required, the Bliss Single Head V-arm Stitcher is recommended. The box, with either center overlap or side overlap, is sealed on the Bliss Top Stitcher or Bliss Portable Stitcher.

This box may also be sealed on an Adhesive Sealer.

BLISS NO. 4 BOX

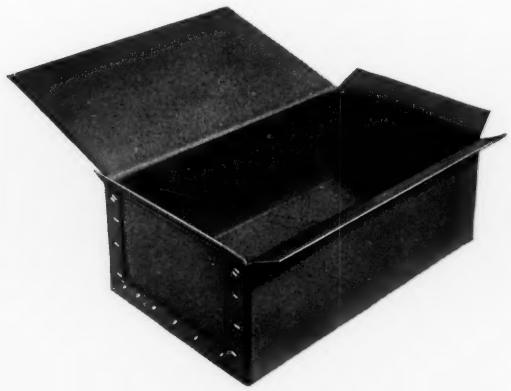


Fig. 24. Bliss No. 4 Box—Open

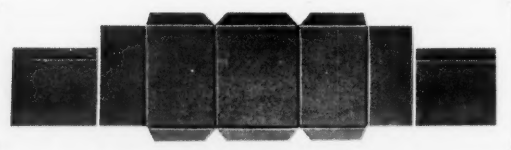


Fig. 25. Bliss No. 4 Box Blanks

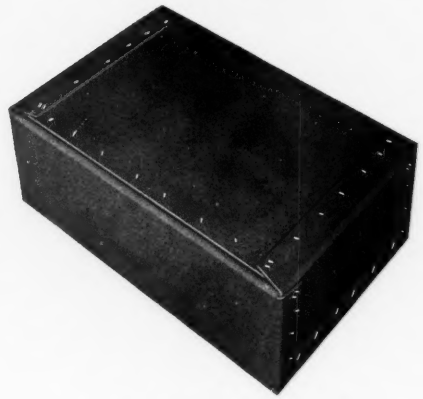


Fig. 26. Bliss No. 4 Box—Sealed

The Bliss No. 4 Box has the flanges on the body sheet. This style has the advantage of placing three flanges on each end of the box, which gives added protection for shipment of products such as canned goods or any other commodities where an end thrust of the contents is to be guarded against. The flanges also serve as vertical reinforcement and protect the goods when boxes are stacked.

Illustration shows box with overlap at the side. This box may also be made with overlap in the center, using the same size body blank.

This box is assembled by wire stitching on the Bliss Single Head Box Stitcher. It may also be assembled on the Bliss V-arm Box Stitcher or Bliss Top Stitcher.

The box with either center overlap or side overlap is sealed on the Bliss Top Stitcher or Bliss Portable Stitcher. It may also be sealed on an Adhesive Sealer.

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TYPES OF BLISS BOXES

BLISS NO. 4-2 BOX

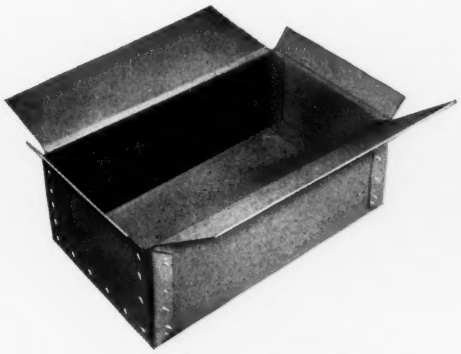

Fig. 27. Bliss No. 4-2 Box—Open

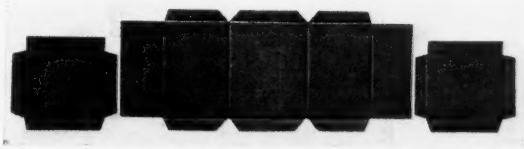

Fig. 28. Bliss No. 4-2 Box Blanks

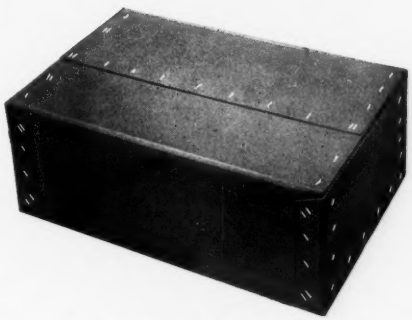

Fig. 29. Bliss No. 4-2 Box—Sealed

The Bliss No. 4-2 Box has flanges both on the body sheet and the end panels. When assembled it has a double reinforcement on all end seams. It is stronger than either the No. 2 or No. 4 box, and is desirable for carrying heavy loads, or where extreme rigidity is required for protection of the contents. Therefore it is recommended for shipping hardware, bulk goods and other products requiring the strongest type of fibre container available.

It is specially suitable for packing blankets, sheets and cotton piece goods which have heretofore been shipped in wooden boxes.

A number of leading concerns are using this box for export shipment because of its ability to withstand many handlings. This type of Bliss Box will carry two hundred to five hundred pounds.

BLISS NO. 24 COLLAPSIBLE BOX

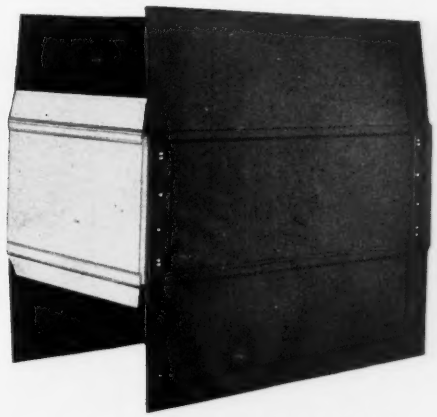

Fig. 30. Bliss No. 24 Collapsible Box

The Bliss No. 24 Collapsible Box is made of four blanks, and is assembled preferably at the mill and delivered knocked down in one piece form. It offers nearly the same saving in material as the Bliss No. 2 Box and has the advantage for the small plant, or user of many sizes, that it comes from the mill ready for filling and sealing. The bottom is stitched on a bottom stitcher or taped, while the top flaps may be stitched on a top stitcher or with the Bliss Portable Stitcher. The top may also be taped if desired.

BLISS REINFORCED END BOX

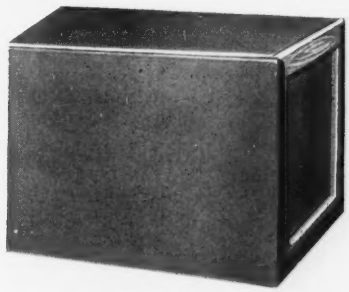

Fig. 31. Bliss Reinforced End Box

The Bliss No. 4 Box may be specially reinforced with narrow wooden cleats framed together which are attached to the end panels. These cleats are applied by the mill furnishing the blanks. The box is assembled in the usual manner. This box is adapted for use with certain meat or similar products, where extra stacking strength under damp conditions of refrigeration is desired.

BLISS BOXES FOR SPECIAL PURPOSES

Bliss Boxes for shipping eggs, poultry, bulk goods, commodities subject to inspection and other products have been designed by our engineers. Prompt attention will be given to inquiries for special types of boxes required for packing and shipping your goods.

DEXTER FOLDER COMPANY—28 West Twenty-third Street, New York

BLISS BOX ASSEMBLY MACHINES

BLISS DOUBLE HEAD ASSEMBLY STITCHER

Fig. 32. Bliss Double Head Assembly Stitcher

This machine is designed especially for the assembly of Bliss No. 2 and No. 4-2 Boxes. The standard machine handles boxes in dimensions up to 33" x 28½" x 28½". Three, four or more boxes may be assembled per minute.

Stitches are driven diagonally which gives maximum strength to the seam. A work table is provided in the rear for holding the body blanks, the end panels being stacked on either side of the operator. An automatic feeding and spacing mechanism is built in so that the operator has only to place the blanks into proper position and step on the pedal. The stitches are driven simultaneously in both flanges and properly spaced. Figure 33 shows a typical Bliss Box after the first seam has been stitched on this machine while figure 32 shows the machine in operation on the second seam. The machine is quickly adjustable for boxes of any dimensions within its range.

A special size may be furnished built to order only for handling boxes up to 65" x 40" x 40", a size frequently used in the textile trade.

Fig. 33. Bliss Box in Partial and Complete Assembly

BLISS SINGLE HEAD ASSEMBLY STITCHER

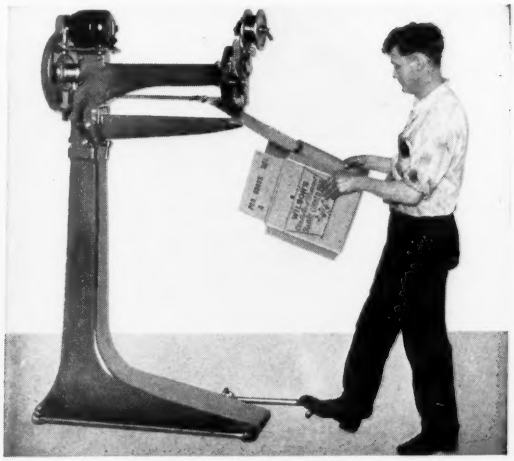

Fig. 34. Bliss Single Head Assembly Stitcher

The Bliss No. 4 Box is usually assembled on the stitcher shown here. The machine is built in three sizes with 15", 25" or 33" throat length. These three sizes cover approximately the entire range of Bliss Box sizes. No. 4 boxes can be assembled at the rate of two to three boxes per minute. This machine may also be used to complete the assembly of Bliss 4-2 Boxes, by stitching the extra flanges on the end panels after the box has been partly assembled on a Double Head Stitcher.

The arm of the machine is fitted with a gauge and also a panel holder to aid the operator in holding the work. This stitcher is also made with a collapsible arm and a removable bottom post, for use in assembling both Bliss Boxes and slotted containers in plants where both are used.

BLISS V-ARM ASSEMBLY STITCHER

This machine may be used for assembling Bliss No. 2, No. 4, No. 4-2 and No. 2-4 styles of Bliss Boxes. It is recommended where the number of boxes used does not justify the purchase of more elaborate equipment. An average of 1½ or two boxes per minute can be stitched. All the usual sizes of Bliss Boxes can be handled on this machine.

Fig. 35. Bliss Box "V" Arm Stitcher

The machine comprises a regular box stitcher equipped with a V-arm. The box is assembled one side at a time, the V-arm permitting the long body blank to be handled readily. Stitches are placed in the seam at 45° angle.

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BLISS BOX TOP STITCHING

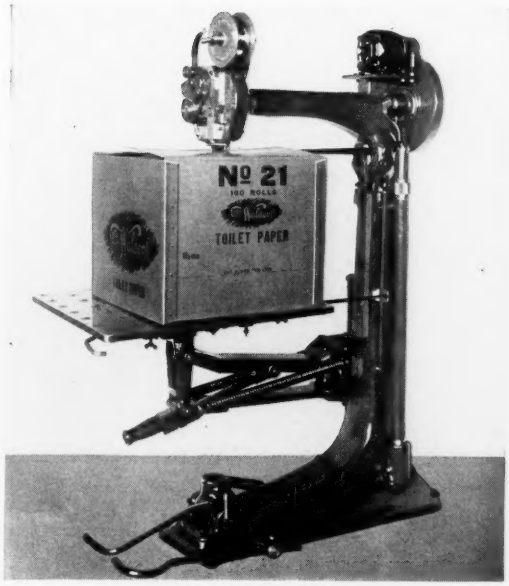


Fig. 36. Bliss Top Stitcher

BLISS QUICK LIFT AND POWER LIFT TOP STITCHERS

Two types of Bliss Top Stitchers are available for stitching the tops of Bliss Boxes—the Bliss Quick Lift Stitcher and the Bliss Power Lift Stitcher. Fig. No. 36 illustrates the box in position on the machine, with the blade anvil inserted under the flaps for stitching. This operation is the same on both types of machines.

On the Bliss Quick Lift Top Stitcher the table is operated up and down by means of the hand lever. Raising and lowering of the table is facilitated by the use of counterbalancing springs. Boxes of average size and weight may be stitched at a rate of three or more per minute.

The Bliss Power Lift Top Stitcher, because of its almost entirely automatic operation, permits stitching of boxes at high speed, and is especially convenient for handling boxes of heavy weight. The machine may be placed beside a conveyor line or may be made a part of the conveyor line if desired. The table is adjustable to the height of the conveyor so that boxes may be rolled onto the table without lifting. The box is raised to the exact stitching position by the power lift, and after stitching is dropped to the conveyor level by the same means. These convenient operating advantages assure maximum output per day and relieve the operator of lifting cases before and after stitching.

See Page 4 for further description of these two machines.

BLISS DELIVERY BOX FOR BOTTLED BEVERAGES

37. Bliss Delivery Boxes

Brewers and Soft Drink Makers are recognizing the advertising and sales value, convenience and economy of this new Bliss Delivery Box for Bottled Beverages.

More than twenty Brewers have adopted this light weight, strong, attractive box for local delivery. It protects the contents from light and displays brands to the best advantage. Costs much less to make than wood or metal boxes and is used and reused many times. It is delivered flat and is set up at the plant in quantities as needed, thus requiring a minimum of storage space.

This new delivery box is another example of the utility of Bliss Boxes. Manufacturers are invited to consult with our engineers, who are available for making a survey of their packing and shipping departments. They can determine for you the most economical methods of protecting your goods while in storage or transit. Write us. No obligation.

PARTIAL LIST OF USERS OF BLISS BOXES

American Salesbook Company
Angelus
Armour & Company
Aspinook Company
Bassick Company
Bear Brand Hosiery Co.
Berst-Forster-Dixfield Company
Brown Shoe Company
Samuel Cabot Inc.
Canadian Packing Co.
Canadian Shredded Wheat Co. Ltd.
Chicago Steel and Wire Company
Fort Howard Paper Company
H. C. Godman Co.
Goodyear Rubber Co.
H. L. Handy Company
Haehnle Brewing Company
Hanover Shoe Company
Hecker H-O Co. of Canada, Ltd.
Heidelberg Brewing Company
Heilman Brewing Company
Hoberg Paper & Fibre Co.
Chas. Hollenbach Company
Hygrade Food Products Co.
Oscar Mayer Co.
John Morrell Co.
Muessel Brewing Company
National Biscuit Company
Nerhoff Packing Company
Ohio Match Company
Pepperell Mfg. Company
Phoenix Toilet & Paper Co.
Prince Macaroni Company
Rath Packing Company
Ripon Foods
W. B. Roddenberry Company

Fig. 38. Bliss Boxes

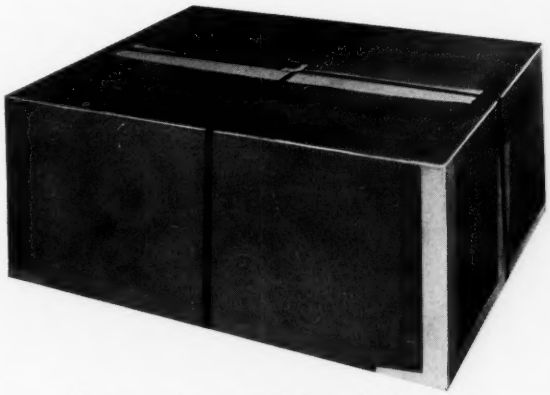
Columbus Packing Co.
Cooper Wells and Company
Cudahy Bros.
Diamond Match Company
Dold Packing Co.
Dominion Rubber Co. Ltd.
Dunn & McCarthy, Inc.
East Tennessee Packing Company
Eckhart and Becker Brewing Co.
Endicott-Johnson Corporation
Federal Match Co.
A. V. Fletcher
Food City Brewing Company
Independent Baking Co.
Interstate Packing Company
Johnson Biscuit Co.
Robert A. Johnston Company
E. Kahns & Sons
Kingan & Co.
Lambertville Rubber Co.
Lewiston Bleachery
Lindsay Ripe Olive Co.
Lookout Oil Refining Co.
Los Angeles Macaroni Co.
Manufacturers Box Company
Mathiesson Alkali Co.
Sauquoit Paper Company
Sayles Finishing Plants
Scott Paper Company
Shredded Wheat Co. Ltd. (England)
Sterling Pulp and Paper Co.
Swift & Company
Terre Haute Brewing Co.
Uniform Chemical Products Co.
United States Rubber Co.
Valley City Brewing Co.
Van Camp Packing Co.
Weis Mfg. Company
Western Stopper Co.
West Virginia Match Co.
White House Biscuit Co.
Wilson & Company

DEXTER FOLDER COMPANY

28 West 23rd Street, New York, N. Y.

force is used to make the straps cut into the edges of the box. On solid fibre and corrugated containers the strap should indent the edges but not severely enough to crush them.

The use of metal strapping on solid fibre and corrugated boxes is rapidly expanding. This is true of both the regular slotted carton and the Bliss style, as well as modified designs of both. Strapping is frequently employed to act in the double role of closure and reinforcement. When so employed it assures the arrival at destination without loss from pilferage, yet



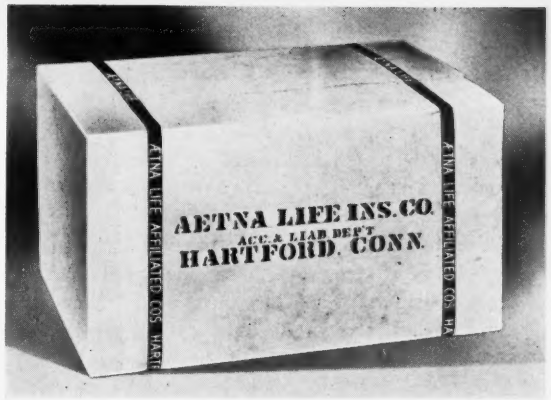
Steel strapping as applied to shipping case

it permits the package to be quickly opened without damaging the carton. In many fields this has been found of great value, as the carton's contents can be inspected or altered and the same container used for re-shipment. Many commodities are shipped in metal-strapped fibre cases which heretofore went in more expensive types.

Unit-Loading

Metal strapping is available in a wide variety of sizes, ranging from strap suitable for small light-weight

Mixed load of boxes, barrels and drums braced with the unit-load steel band system



Private brand nailless strapping

packages to that of the proper size to tie all the merchandise in a freight car together into two half-car units. This unit-loading of carload freight shows considerable economy over other methods of bracing and reduces damage to a minimum. In both theory and practice it permits the entire load to shift as a unit and thereby dissipates the force of handling shocks. This rapid method of carload bracing is adaptable for mixed as well as solid uniform loads.

Bundling

Whereas in the past almost everything was boxed for shipment, it is customary today for many articles

Placing skid loads in the car

to be strapped together as a unit and shipped without any other packing. This type of bundling saves both the container cost and the freight on its tare weight. While not applicable to all items this idea is spreading rapidly for certain types of commodities. Bundling of several standard packages into one unit is practiced to reduce handling costs, eliminate a multiplicity of labeling and to assure the arrival of the entire shipment as a unit at its destination.

Special Uses

In an increasing number of cases it has been found that specific articles do not require complete packing protection. In these cases, a limited protecting element can be strapped to the article in question. Among such cases are batteries, which are frequently shipped with covers strapped over the terminals, as well as nested stove pipe, which are strap-bundled with suitable caps for end protection. On the other hand, economic circumstance has dictated the packaging of many items, such as sash-door and window-frames, etc., which heretofore were shipped as aggregate pieces.

Skid Shipments

It has been found both economical and expedient to ship many basic commodities, such as tin plate, sheet steel, coiled strip, paper, etc., on skids. In this method the commodity is strapped to the skid, which holds considerable weight, and as a rule these skid units are rapidly handled in loading or storage by either hand or power trucks. Although the unit is too heavy to admit of manual handling, the same truck that moves it about is frequently employed to stack one loaded skid on another and thus conserve storage space. Thus does metal strapping help solve the problems of shipping.

METHODS OF WIRE STITCHING

BY G. PRESCOTT FULLER

ASSEMBLING AND SEALING containers by means of wire stitching is much used because of the ease of its application and the strength and security of the joint, each stitch giving a positive closure of the flaps. No setting time is required as when adhesives are used, and relatively cheap labor can be employed. Furthermore, if warehousing and repacking are desired, the stitches can be removed with a screwdriver or special tool without appreciable damage to the case, whereas a box with glued joints cannot be opened without serious tearing of the flaps. The method is economical, as inexpensive machinery is needed, and wire stitches cost only from three to five cents per thousand. Wire stitching is of general application, irrespective of the size of the container, the construction of the flaps or the kind of board of which it is made.

All wire stitching machines are variants of the simple box stitcher, which comprises a stitcher head, a body or frame supporting the head and also containing the driving mechanism, a base supporting the body and a horizontal arm for holding the work, the end of the arm containing the clinching device. Stitching heads are of two general types, in one of which the wire is fed from the side while in the other the wire is fed from the top. Both types are constructed with means for feeding the wire and cutting it in predetermined lengths, receiving the piece of wire and transferring it to the bending mechanism, bending the ends of the wire to form legs, and driving the formed stitch through the work, a supporter being provided that supports and guides the stitch while being driven. The arm contains a grooved clincher which receives the legs of the stitch and bends them inward and tightly against the under side of the work that is being done.

Stitcher heads with side wire feed are usually employed for stitching containers since they can be more ruggedly constructed, while the vertical feed type is used for multiple head work because the heads can be placed closely together.

The clinching arm is quickly adjustable, up or down, to accommodate varying thicknesses of work and the wire feed is also instantly adjustable. Angle arms can be obtained for handling special classes of work, and adjustable gauges of various sorts can be had for facilitating repetitive operations. Machines are available with the stitcher head set at an angle so that stitches can be driven at 45 deg. to the grain or the corrugations of the board.

Many different sizes and shapes of wire may be used, also the width of the crown can be changed, provided the proper parts are installed. The ends of the wire can be cut square or at an angle of 45 deg. as desired. The wire usually employed is of copperized or galvanized steel, .103 in. wide and .017 in. or .020 in. thick. Another type of wire is 0.60 in. wide, and .020 in. or .024 in. thick. The number of stitches of average length per pound of wire will run from 1600 to 2500, and the cost from three to five cents per thousand. Stitching wire comes on 10-lb. spoolless coils, an aluminum spoolholder being used in setting it up on the machine. The usual crown length is $\frac{3}{8}$ in. or $\frac{7}{16}$ in., although for some purposes longer or shorter crowns are employed.

The following sections describe the more usual applications of wire stitching in the assembling and sealing of containers as now practiced.

Box stitchers are used for stitching the manufacturer's seams of regular slotted containers. This operation can be performed on a standard box stitcher, the work being pushed along the arm as stitched, and the

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for all kinds of Packaging Operations

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Tin Labeling
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Paper Box Making
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Special Adhesive Work

For fifty years this organization has supplied packaging adhesives to the leading manufacturers and packers of the country.

Whether your packaging proposition requires labeling, wrapping, sealing or other adhesive operations we have the experience and the facilities for supplying the right glue to suit each specific need. Reliability and Uniformity have always distinguished ARABOL products.

We have perfected a special adhesive for every make of machine on the market which applies glue or paste in the process of packaging. Most of these adhesives have been developed in cooperation with the machine manufacturers and are recommended by them for producing best results with their equipment.

All users of adhesives are invited to avail themselves of the services of our experts. This is offered without obligation. Whether your adhesive requirements are simple or complicated, we will be glad to offer suggestions based upon our adhesive experience of half a century.

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Largest Adhesive Manufacturers in the World

finished box afterward withdrawn. The box may also be folded over the arm and stitched as it is being withdrawn towards the operator. There is some advantage in making up boxes in this way in that the flange may be more accurately positioned along the adjacent side than when the box is folded on the creases and then stitched. Stitches are placed 2½ in. apart, with tie stitches very often used at each end of the seam, although on boxes less than 18 in. in depth the classification permits a maximum spacing of 3 in.

It is better practice to use the so-called "slotted container stitcher" for this operation, this machine being equipped with a table on which the blank rests, and also an open head device (or clincher tongue) bolted to the stitcher head and rigidly or semi-rigidly supported thereby. The open head device is merely a double guiding member and clincher arm which holds the stitching flange and the opposite side panel in proper position during the stitching. The box blank is folded along two opposite creases so that the flange overlaps the adjacent panel, the flange and panel being guided through the open head and then stitched. The finished box is removed from the discharge end of the machine, thus making a continuous operation.

For stitching corrugated boxes, it is preferable to have the stitches diagonal to the corrugations to give greater holding power, and machines up to 48 in. in throat length are available for this work. The operation is carried on in the same manner as when the straight head machine is used.

Automatic R. S. C. stitchers are often used for this work where long runs of one size are involved, the machines having one stitcher head set at an angle of 45 deg., and which in some cases is of the duplex head type to permit driving double rows of stitches, or tie stitches at each end of the seam. The machine is equipped with devices which first stitch in proper position, and space the other stitches evenly and in predetermined number, the finished box being ejected by means of high speed rollers at the rear end. The machine is quickly adjustable for different sizes of boxes; and two operators can easily turn out 30 to 35 boxes per minute having five stitches in the seam. Larger boxes naturally require more time.

Three Piece (Bliss) Boxes

One style of three piece box has the stitching flanges made a part of the body blank and is usually assembled on a box stitcher, a hub being placed over the end of the arm which forms a guide or spacer to bring the stitches at the center of the flange—a panel holder also being furnished for convenience. The operator first pushes the top flap of one end panel into the panel holder, then folds up the body blank into shape and pushes the same over the end panel. By holding the sides firmly in the hand the end panel is also held in position, and the box placed over the stitching arm and the bottom flange attached by means of a single stitch in the center. The three flanges are now stitched, tie stitches usually being placed at the top and bottom of the side flanges for greater strength. When offset slotting is used, with the bottom corners overlapped, a stitch should be placed as close as possible to the overlap, and double stitches in the overlap itself. A machine with a V arm may also be used, in which case the stitches are placed at an angle of 45 deg. to the grain or corrugation of the board, which gives a stronger joint.

Another type of this box has the stitching flanges made a part of the end panels, and is assembled on a special double head stitcher with 45 deg. heads. A movable and adjustable work table is placed between the stitcher heads, the edges of the table serving as guides in the assembly of the box. The first step consists in laying the body blank on the table with one top flap bent down in front of the operator, who holds the two end panels in position against the sides of the table so that the stitching flanges overlap the first side of the box in proper position for stitching. One stitch is placed while the table is in its outward position, the table pushed in and the remainder of the stitches placed in order, automatically spaced. The body blank with the ends attached is then moved forward and bent over the end of the table, thus presenting the bottom for stitching. The flanges on the bottom of the ends are folded in place and stitched as before. The third operation is a repetition of the second and completes the assembly of the box.

The second style of box can also be assembled on a V arm machine, one side at a time, but the speed is less than when a double head is employed.

Recessed End Boxes

These may be stitched on regular box stitchers equipped with a gauge to properly position the stitches in the center of the flanges. If desired, an adjustable table can be placed below the clincher arm to support the box while being stitched, especially after it has been loaded.

Telescope Boxes

The blanks for heavy telescope boxes are received flat by the customer and may be creased twice at each corner, with diagonal slotting, so that the corner flaps

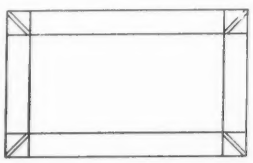


Fig. 1

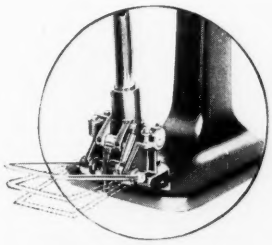
Fig. 2

fold up in triangular form, either against the ends or the sides of the box as desired. This construction is shown in Fig. 1 and Fig. 2.

The flaps are stitched on a box stitcher in the man-

Ideal STITCHERS

APPLICATION OF Ideal WIRE STITCHING MACHINES



SINGLE TREADLE

This modern labor-saving treadle reduces by 50% the number of manual operations required to operate the Ideal Bottom Stitcher. Three positions of a single treadle control the work.

BOTTOM STITCHERS. For slotted carton bottoms, also for caddy bottoms.

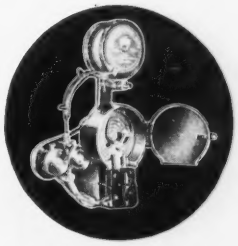
STRAIGHT ARM STITCHER. For Bliss-type boxes, telescope boxes, suit boxes, recessed end boxes, display card boxes, cracker caddy lids, solid fibre or corrugated cartons, display cards, cellophane bag stitching, paper coal bags, floral boxes, packaged pies, coffee rings, cakes, various types of flat stitching jobs. Tables and gauges furnished for various special jobs.

ANGLE ARM STITCHER. Particularly adapted to telescope box work, where vertical stitches are desired. Designed to handle either two or three thicknesses of paper board without changing adjustment.

ANGLE HEAD STITCHER. Designed to handle any flat work where vertical stitch might be desired; i. e. advertising cut-outs, regular slotted carton corners, etc.

45° ANGLE STITCHER. For corrugated or fibre carton manufacturers, for stitching corner seams.

CORNER STITCHER. For caddy lids, stay corners on set up boxes, corners on fibre or light weight wooden cases, trunks, suit cases, etc.



STITCHER HEAD

The simplest stitcher head ever conceived. A positive rotary feed. No skilled mechanical attention necessary.

BOTTOM STITCHER

Stitches bottoms of regular slotted containers (solid fibre or corrugated), caddies, or any type of work where post can be set under work to be stitched. 12" machine handles cartons up to 24" square by 40" deep; 20" machine handles cartons up to 40" square by 43" deep. Can be made to handle standard flat ribbon wires or other flat and round sizes. 200 stitches per minute and up.

STRAIGHT ARM STITCHER » »

Stitches regular line of corrugated or solid fibre shipping containers. Telescope boxes, suit boxes, folding boxes, bags, coal bags, display cards, display stands, display boxes and other specialties. Can be equipped with tables and gauges for any particular job. Made in 12", 20", 26" and 30" throat sizes.

ANGLE ARM STITCHER » »

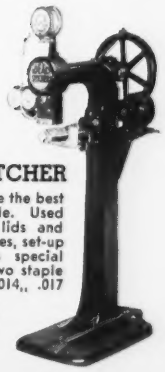
Specially constructed for telescope boxes, where two or three thicknesses of stock may be stitched with one adjustment of the arm. Puts stitches in a vertical position in box, eliminating chance of staples catching on each other as boxes are opened and closed.

ANGLE HEAD STITCHER

Places staples parallel with stitching arm as sometimes desired on slotted cartons, either fibre or corrugated. Built in 20", 26", or 30" throat sizes.

45° ANGLE HEAD STITCHER » »

Equipped with open head or clincher tongue attachment and table. Drives the stitch at a 45° angle to the manufacturer's seam. Particularly designed for stitching corrugated or solid fibre containers. Built in 27", 33", or 37" throat sizes.



CORNER STITCHER

We believe this to be the best corner stitcher made. Used for cracker caddy lids and boxes, hardware boxes, set-up boxes, and various special purposes. Built in two staple sizes, 1/2" or 3/8". .014" .017 or .020 ribbon wire, or 20 x 25 narrow flat wire. 12" throat.

Ideal STITCHER AND MANUFACTURING COMPANY
100 FOURTH STREET RACINE, WISCONSIN

ner shown, the number of stitches placed depending upon the weight and character of the contents. Sometimes one of the triangular flaps is folded outside of the end, and the other inside of the side, both being stitched in place to give added strength. Another method of making up such boxes is to crease and slot the corners so that when assembled, rectangular corner

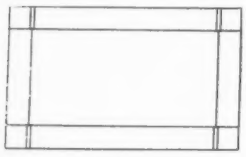


Fig. 3

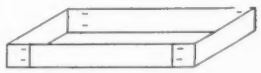


Fig. 4

flaps are formed which are folded up against either the end or the side of the box as desired. This construction is shown in Fig. 3 and Fig. 4.

Folding Suit Boxes

These are usually stitched by hand on single head box stitchers provided with gauges. Duplex head, or multiple head stitchers may be used, however.

Wood End Boxes

Wood cleats are frequently applied to the end panels of three piece boxes; also panel boxes are often made up with wood frames and fibre sheets. The wood is usually $\frac{5}{16}$ in. to $\frac{3}{8}$ in. in thickness, and the board may be .100 in. or more thick. This combination of materials can be stitched on a standard box stitcher, but a special wire draw gear may be required in order to form staples with a sufficient length of leg to penetrate the wood and fibre and clinch on the other side.

Cracker Caddy Covers

The covers of the familiar cracker caddy are about $10\frac{1}{2}$ in. square, with flaps that are from $\frac{3}{4}$ in. to

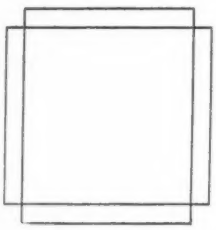


Fig. 5

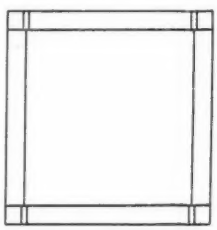


Fig. 6

1 in. wide. The flaps may be arranged in two ways, as shown in Fig. 5 and Fig. 6.

When the corners are cut out as in Fig. 5, the covers are stitched on a corner stay machine, using a stitch that has the crown bent at an angle of 90 deg., one leg being clinched in each flap. The driver is cut out in the center at an angle to drive the stitch with a 90 deg. angle crown, and a moving clincher mechanism is employed that clinches the staple legs flat against the flaps, which are brought tightly together. The arm of the machine is also shaped with a 90 deg. angle. In practice the operator sits in front of the machine and stitches the four corners in succession, frequently working at a rate of 15 or more covers per minute.

While the usual type of caddy cover is cut out at the corners, the one shown in Fig. 6 is sometimes used. This involves no more material, but makes use of the corner pieces (cut out in the other type) to strengthen the corners of the cover, slotting being employed.

Shopping Bags

One important use of box stitching is found in the attachment of handles to paper shopping bags. The handle itself is made of twisted fibre stock about $\frac{1}{8}$ in. to $\frac{3}{16}$ in. in diameter. The handle is bent to shape and placed in position with the two ends overlying the folded top of the bag, and two stitches are placed in each end to hold the same to the bag, a strip of fibre board being often inserted under the fold to increase the holding power. Standard box stitchers, fitted with gauges, are employed, but the bottom of the driver has a round groove cut in it which fits over the handle of the material, the driven stitches thus presenting a neat appearance and at the same time holding the handle securely.

Bag Closing

The tops of filled paper bags are often closed by wire stitching, using standard box stitchers. The top of the bag is either folded over once, or a double seal fold may be used, and two or more stitches inserted, fine wire such as No. 20, No. 25 or No. 1 Hybar being ordinarily used. A sufficiently light wire should be employed so that when the joint is pulled apart the wire will be held in the bag material and not loosened so that it can fall into the bag.

The sealing of heavy bags is best done on a machine with a horizontal stitcher head, the stitches being driven horizontally instead of vertically as usual. A table equipped with rolls is placed under the stitcher, or a standard conveyor is used, on which the bags stand with the flaps at the right height for closing. The top flaps are folded down and guided into the stitcher head between the driver and the clincher, using a bent sheet metal guide.

Miscellaneous Uses

Box stitchers are also used for a wide variety of other operations such as attaching articles to cards; fastening sheets of insulating strips together; holding the ends of gaskets; assembling box specialties; stitching the ends of fibre drums; forming attachment hooks on automobile upholstery; attaching canvas backs and seats on lawn and porch furniture; and for

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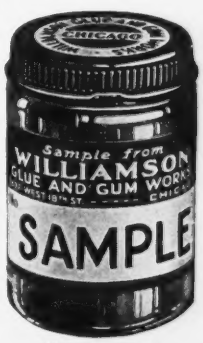

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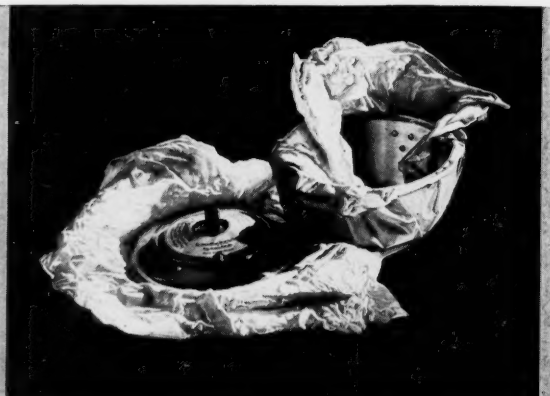

KIMPAK *guards against scratches and damage to the bright finish of the Mirro Dutch Oven, made by the Aluminum Goods Manufacturing Company, Manitowoc, Wisconsin.*

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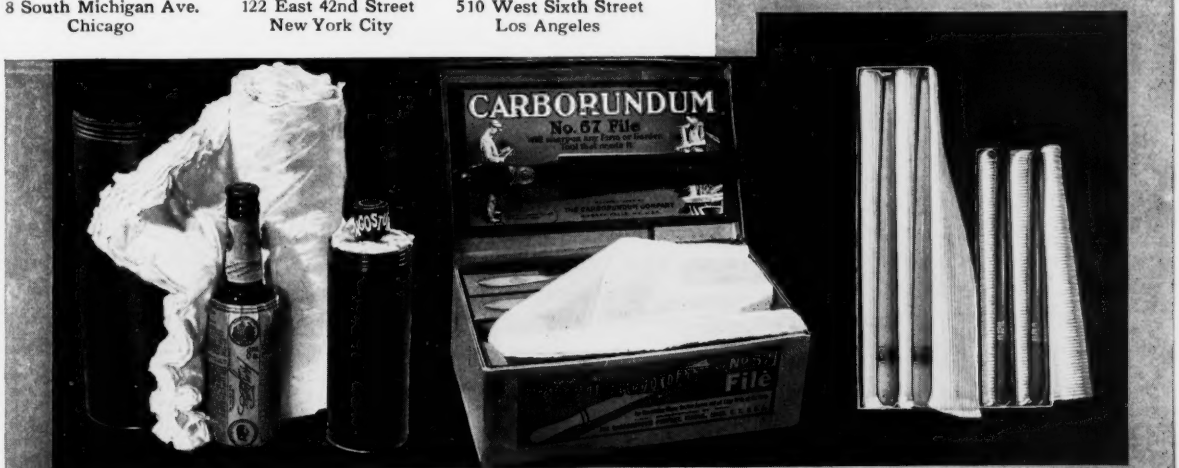
Lyon Metal Products, Inc., use KIMPAK *to protect the edges of their beautiful bridge table against marring and also as a soft, resilient padding for the table top.*



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KIMPAK *protects the Carborundum display file from damage to itself and other boxed files.*

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the assembly of berry baskets, display boxes, pastry containers, book matches.

Special attachments, guides, feeding mechanisms, etc., can be installed to facilitate any of these operations where high production is desired.

Bottom Stitching

A bottom stitcher is nothing but a standard box stitcher without the clincher arm, a vertical post being substituted which is mounted on the base casting or frame. The post is 1½ in. to 2½ in. in diameter and the clincher is fitted into the top, which is reduced in area to 1 in. to 1½ in. in diameter. The head of the post is adjustable, up or down, by hand to accommodate different thicknesses of board; and is usually constructed with a heavy spring inside the post, so that if extra heavy work is inserted without proper adjustment, the spring will give and the stitcher head not be damaged by the strain. The post is hinged at the bottom, and by depressing a special pedal may be tilted forward to permit easy insertion of the box before stitching. The best types of bottom stitchers have a considerable opening between the top of the post and the stitcher head, and when small or medium size boxes are being stitched the operator can usually place them over the post without tilting the latter forward, thus saving time in the operation. (This is the usual practice when stitching the bottoms of cracker caddies.) The regular operating pedal is then used to set the stitcher in operation. In some machines a single pedal is employed, and the post normally tilted in forward position. When the pedal is depressed the post is first moved into vertical position and locked in place, and the stitching then commences without further movement of the pedal. The stitching is not necessarily continuous, since by partly releasing the foot pedal the operation can be interrupted without releasing the post from its locked position.

Duplex head bottom stitchers are also used; a single stitcher head being arranged to drive two stitches at once, with the crowns in line and spaced two and one-half inches apart. A short bar is placed on the top of the bottom post, fitted with two clinchers properly spaced. Double head bottom stitchers have two stitcher heads which may be placed in fixed position (nonadjustable) for repetitive work on one side of box, or which may have narrow stitcher heads adjustably mounted. In either case a bar is fastened to the top of the post in which the clincher blocks are mounted, and for the adjustable machine the clincher blocks are movable over a certain range.

Bottom Stitching of Slotted Containers

In many industries it has been found good practice to stitch the bottom flaps of slotted containers before they are loaded, the advantage being that the box is thus held firmly in shape with a secure bottom closure, while the goods are being inserted. In the glass bottle industry, for example, cases are usually bottom stitched, and after loading the top flaps are temporarily sealed by spot gluing, temporary stitching or taping and then shipped to the user, who fills the empty bottles, labels them, reloads in the box in which the empties were received and then seals the tops.

Bottom stitching gives a secure and strong attachment of the bottom flaps, unaffected by moist conditions of storage which would weaken a closure made with tape or glue. Furthermore, cases can be bottom stitched very much more rapidly than they can be glued or taped. Several conditions of bottom stitching are met with, the more important being described.

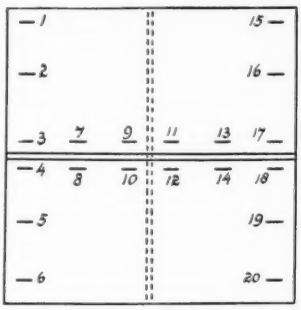

Fig. 7

All flaps of case meet in center. This condition is met in all square containers or in center special slotted cartons. When using a single head machine the stitches may be placed in the order shown in Fig. 7, or the stitches along the center may be placed first to hold the box in shape and the ends then stitched. The box should be held firmly from the two sides so as to hold the box square and avoid any gap between the outer flaps. The stitches should not be over 2½ in. apart and the stitches along the edges of the abutting outer flaps are usually placed close to the edge. Double stitches are often placed at 9, 10, 11 and 12 the better to hold the inner flaps to the outer. Care should be taken that the stitches are tightly clinched so that the inside of the box will be smooth. When stitching corrugated boxes the container may be held at an angle to the machine, thus allowing stitches to be driven diagonally across the corrugations to give greater holding power.

Outer flaps meet, inner flaps not over 6 in. apart. The same method of stitching is used on slotted cartons which are not square, but in which the inner flaps are not more than six inches apart. No stitches, of course, are placed except where there are two thicknesses of board.

Outer flaps meet, inner flaps over 6 in. apart. Where the inner flaps are over 6 in. apart the Classification requires that if wire stitching is used, the outer flaps must be overlapped one inch or more and attached by wire stitches not over 2½ in. apart.

Outer flaps overlapped. Containers of this construction are much used in the shoe and other industries, and when stitched on a single head machine, the center overlap (1 in. or more) is stitched first, the sides of the box being firmly held between the hands of the operator. The stitches are placed across the overlap as the box is most easily held when the seam, or length of the box, is in the direction of the arm of the machine. The stitches on the ends may be placed

Stitchers

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In manufacturing dependable stitching machinery for the Fibre Box industry during many years past, Saranac has not only furnished machines to meet standard stitching requirements, but has included a large number of specialized applications as well. In our new Bulletin 125 are included the Saranac heavy duty and the popular-priced fibre stitchers, supplemented by illustrations of many special units, such as the bag handle stitcher shown below at left. Every user of stitchers will be interested in Bulletin 125.

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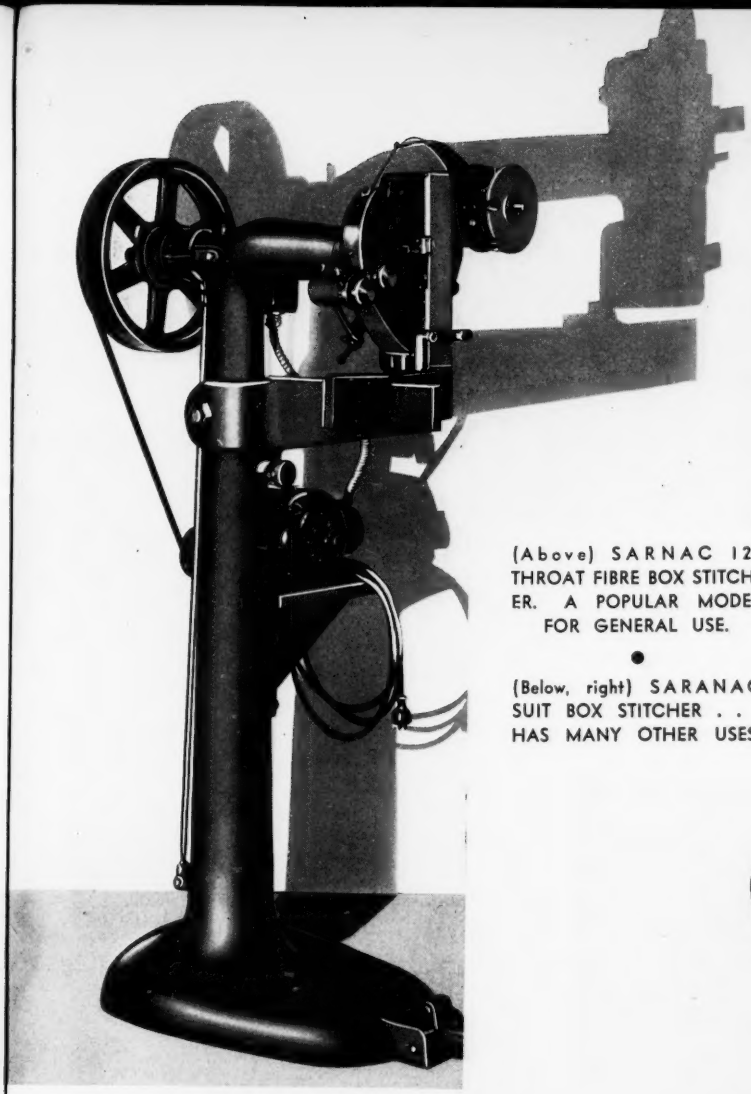

(Above) SARANAC 12" THROAT FIBRE BOX STITCHER. A POPULAR MODEL FOR GENERAL USE.

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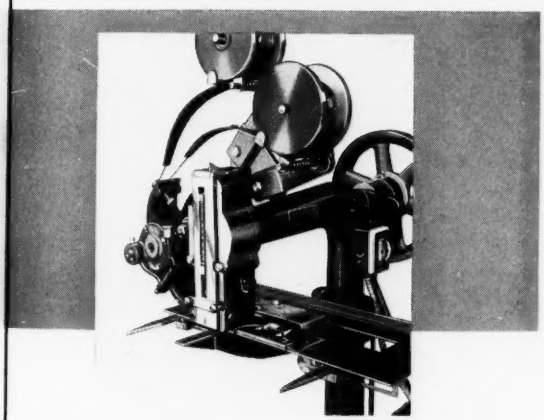
(Below, right) SARANAC SUIT BOX STITCHER . . . HAS MANY OTHER USES.



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either in the same direction as those on the seam or at 45 deg. or 90 deg. Of course all stitches may be placed parallel to the seam, but this is slower and not usually done. When the outer flaps are overlapped one inch or more the box may be of any length, without regard to the space between the ends of the inner flaps.

Full overlap boxes. Boxes with the bottom flaps fully overlapped are often sealed with glue; but when wire stitched it is usual to cut down the overlap to 1 in. in order to save material, except where the case is very long and narrow and extra rigidity is wanted.

Double head bottom stitching. In one method of bottom stitching of boxes, the outer flaps of which meet and the inner flaps meet or are not over 6 in. apart, the heads are set so that one stitch will be driven just inside the end of the box and the other just inside the edge of the opposite inner flap. The ends of the clincher bar form guides for spacing the stitches from the side of the box. The stitches are placed in order one side being completed first, the box moved over on the post, and the other two rows placed. An adjustable table is often fitted around the post to support the projecting top flaps of the box, which helps to hold the bottom flaps in flat position during the stitching operation. A disadvantage of double head stitching is that eight more stitches must be placed than are required by the Classification. The extra cost of these eight stitches is, however, usually not of importance compared with the value of the extra speed of the operation.

In single head stitching from three to six boxes per minute can be bottom stitched by one operator, while on a double head machine the output can be increased by 75 per cent or more. The output, however, will not be doubled, since an important part of the time of the operation is required for folding the box in shape, placing on the machine, and for removing the finished box after stitching.

Duplex head bottom stitching. A duplex head stitcher, driving two stitches at once, spaced 2½ in. on centers, can be used on all boxes, whether the outer flaps meet or overlap; whereas a double head stitcher cannot be used on overlapped flaps since there is no way of placing the stitches in the center part of the seam. When used on a box with the outer flaps meeting the center seam is stitched first, the stitches straddling the joint. By holding the box at an angle to the machine the stitches may be driven diagonally and thus brought closer to the joint than when placed at right angles. The ends of the box are then stitched, the stitches being placed in the order shown, two at a time.

When stitching a box with center overlap it is easier to stitch the ends first (since the box can be better held if both ends are equidistant from the body), the center seam being then completed. This can be reversed, however, and the center seam stitched first, but in this case one arm must be extended over the box to hold the opposite side until the first stitches have been driven. Duplex head stitching is not quite as fast as double head stitching since the position of the stitches in the center of the box, or on the overlap, must be judged by the eye (as in the case of single head stitching) although the stitches along the ends may be rapidly driven because the clinching arm forms a guide. It is, however, a method of wider application since it can be used without any machine adjustment for all sizes of boxes and for all flap constructions, and is much faster than single head stitching.

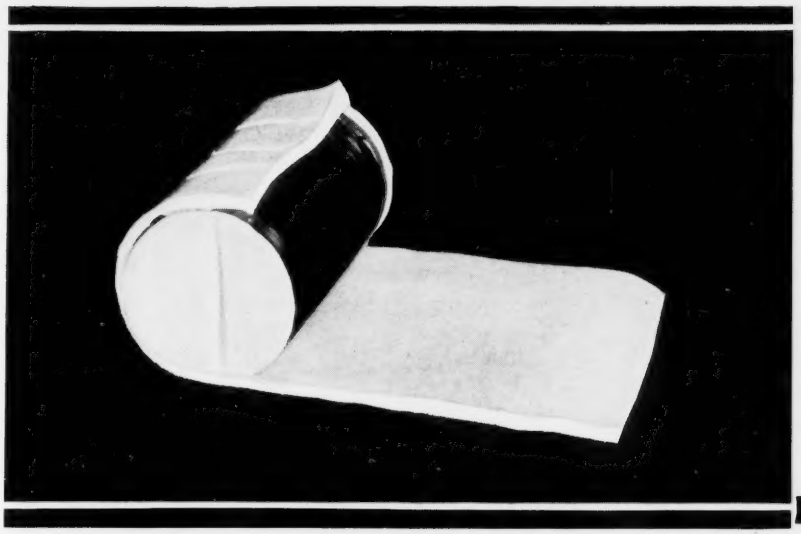
Cracker caddies. These small cracker boxes have the bottom flaps overlapped about ¾ in., and two stitches are used on the small sizes and four or more on large caddies. Single or duplex head machines may be used, with two operatives, one of whom folds the box in shape and hands it to the second who does the stitching. Speeds of 30 boxes per minute on single head machines are not unusual.

Top stitching. A standard top stitcher comprises a box stitcher without the solid clincher arm, in replacement of which a thin steel blade is used with the clincher set in the end. This blade anvil is made of forged steel and is tapered toward the front to make it as thin as possible, being somewhat flexible as a result. These machines are made with blades up to 33 in. in length, which is adequate to handle any length of box in regular use.

Since the top stitching operation is always conducted on boxes that have been filled and may be of considerable weight, a work table is provided which is fitted with ball-bearings on which the box may be easily moved in any direction. This table is counterbalanced by means of springs or counterweights, and is quickly and easily adjustable up or down by hand, so that when the box is placed upon it the top flaps will be in proper position for the insertion of the blade anvil. When in use the operator lifts the case onto the table, stitches the flaps in order, and removes the finished case to a truck or conveyor. When containers of varying heights are used they are placed on the table and the latter adjusted to the proper height.

A recent development in top stitching involves the use of a table lifted by means of the motor on the machine. The table lifting mechanism is connected to the motor through a special clutch, and a separate double-action foot pedal is used for its control. When the back of the foot pedal is depressed by the operator the table and case are lifted, a stop being attached to the head which automatically brings the table to rest at just the right position for the blade anvil to enter under the top flaps. By depressing the front of the pedal the table is lowered again, while a brake is engaged when in neutral position to hold the table rigidly in place.

This machine can be placed beside a conveyor line, or made a part of the same, the lower position of the table being fixed at the proper level. Each loaded case as it comes to the stitcher is moved onto the table, raised by the power lift to the stitching point, stitched, lowered and pushed onto the discharge conveyor. This relieves the operator of the fatigue inherent in the lifting of each package by hand and also eliminates the danger of tearing the flaps and corners of the box when the latter is



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handled, unsupported by the table, before sealing. An operator using this type of machine can handle many more cases per day than by the old method and with a minimum of physical effort and fatigue, since a 90-lb. case can be as easily and quickly manipulated as an empty one. The use of this machine also minimizes the danger of damage to the case or its contents by forcing the blade anvil under the top flaps when not in proper position for operation.

Standard top stitchers are much used in the form of combination with a bottom post, the latter being removable while the blade anvil and table can be swung out of the way when used for bottom stitching. The change from one use to the other can be made in one minute, without the use of tools, and this machine is popular in small or highly departmentalized plants where a combination of operations is desirable.

Portable top stitcher. This machine is entirely self-contained, with built-in universal motor, and weighs but 20 lbs. In use it is suspended from an overhead trolley by means of a spring, so that the machine hangs freely and can be moved in any direction at the will of the operator without having to lift it. For top stitching small boxes or for setting temporary stitches for warehousing, a 10-in. blade anvil may be used, while for general purposes a C-shaped anvil is employed. This is a miniature equivalent of an open head device, but capable of doing work not possible on an open head. The C anvil can be turned at the corners of the box, and when the last stitch has been driven the shape of the anvil is such that it can be withdrawn from the seam by a rotary motion, leaving not over a 2-in. opening. This machine is of advantage in sealing the tops of large and heavy boxes, since the latter do not require to be moved from the truck or conveyor, but the stitcher is brought to the box and moved freely around the seams, thus permitting more efficient operation.

Under the Classification requirements of Rule 41, top stitching is permitted when the outer flaps meet and the inner flaps are not over 6 in. apart, or where the top flaps overlap one inch or more, in which event the inner flaps may be any distance apart. In no case may the inner flaps be less than one inch in width, and they are frequently extended in three piece Bliss boxes to from two to four inches for extra strength and rigidity. The stitches must be not over 2½ in. apart, and all seams must be completely stitched, allowance being made for a sufficient space for the withdrawal of the clinching device (blade anvil). It is also permissible under the rulings to stitch the side overlapping seam and to glue the end flaps, provided that the latter are not less than 2 in. in width and are brought outside the case.

Mattress Cases. These boxes are long and wide and only from 5 in. to 6 in. deep. The best method of stitching the end openings is to have the outer flaps overlap 1¼ in. and then stitched with a portable stitcher with C anvil. The box may be stood on end beside a platform so that the operator will be at a convenient working height. The bottom of the mattress case can also be stitched by the same method.

Cracker boxes and caddies. Cracker boxes are not usually top stitched, the covers being fitted over the tops of the boxes and taped to the sides. However, two methods of attaching the tops by wire stitching have been developed and are in use in a number of plants. The first method requires the use of an inverted bellows flap on the body, comprising flaps on the top of the body which are turned back outside the box and the cover then fitted over the same.

The second method is applicable to cracker boxes of regular construction, without the use of extra flaps. A horizontal stitcher is employed, the blade anvil moving downwards instead of upwards as in the preceding method. The cover may have die cut slots, placed close to the edge, for the insertion of the tip of the blade anvil (which is made very narrow and thin for this work). As each stitch is driven the anvil is automatically moved down through the slot and then withdrawn again, and thus made ready for the next operation.

When large cracker boxes are used made of corrugated board (which may or may not have separable covers), the previously cut slots may be omitted, the end of the blade being sharpened so that as it descends it cuts its own slot through the board. The use of slots in the top of the box does not leave appreciable openings, since the board is pliable and when the thin blade is withdrawn the fibre springs back into nearly its original position.

Bumper boxes. These boxes, used for automobile bumpers, shade cloth, roll screen wire, and other long articles, are relatively small on the ends. A horizontal stitcher is used with a regular blade anvil (thinner than usual), and the machine usually has no base, the body being bolted to a table on which the box is placed. The ends of the box are pushed against the blade which is brought inside the outer flaps and the necessary stitches then driven.

Telescope boxes. While telescope boxes are usually tied with rope to hold the two sections together, it is also possible to seal them by wire stitching on a machine with a blade anvil. To stitch the two sections together the end of the blade anvil is forced under the flap of the inner section and between it and the end or side (as the case may be) and stitches driven through the flap of the inner section and the overlapping cover, thus fastening the two sections together. Four stitches are used on each box.

Temporary top stitching. Where filled containers are to be warehoused, and must be opened again before the final sealing, only a few stitches are placed. In one method the top flaps are folded inside the inner flaps and four stitches placed by inserting the blade under the flaps and stitching the four overlapping edges, thus forming a temporary seal.

The stitches are easily removed at the warehouse by means of a screw-driver, or by use of a special staple remover, the end of the tool being carefully inserted under the crown and the staple pried loose. Care must be taken not to cut into the liner of the board when this operation is done.

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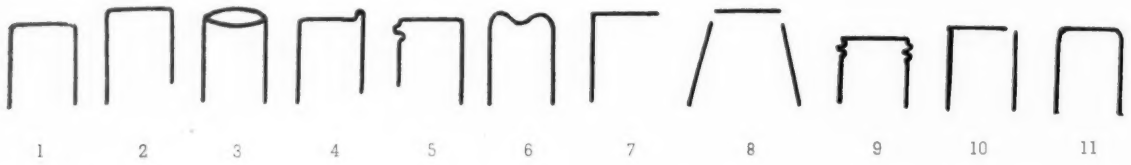
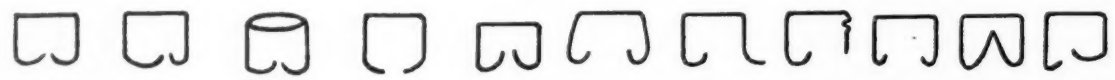
The accompanying chart shows illustrations of perfect and imperfect stitches, together with the causes of the imperfections. Practically all defects in wire stitching arise from improper adjustment or from the presence in the stitcher head of worn parts needing replacement.



1 2 3 4 5 6 7 8 9 10 11

UNCLINCHED: 1. Perfect stitch. 2. Legs uneven, either leg may be too long. 3. Crown twisted and not flat, spring broken and anvil does not function. 4. Right driver tip broken. Either or both may break or chip. 5. Left leg buckles. Either leg or both may buckle. Dull knife or wire too small. 6. Wrong size wire, or insufficient compression on heavy work. Supporter retracts too easily. 7. One leg missing. Improper anvil adjustment, or wire slipping in feed gears. 8. Wire comes out in pieces. Anvil not lined up with former grooves. 9. Both legs buckled. Wire too small, clincher too narrow, or dull knife. 10. Corner broken or nearly cut through. Wire too hard, corner of shoe too sharp, driver corners sharp, or formers worn. 11. Corners rounded, anvil worn at edges, wire will bind in anvil.



12 13 14 15 16 17 18 19 20 21 22

CLINCHED: 12. Perfect stitch. 13. Legs uneven. Either leg may be too long. 14. Crown twisted and not flat. Spring broken and anvil does not function. 15. Clincher too low. 16. Clincher too high. 17. Legs spread. Poor cutting, worn formers, or thickness of work beyond capacity of machine. 18. Only one leg clinched in. Clincher not in line with driver. 19. One leg buckled. Clincher not in line with driver, or too narrow. 20. Short legs. Insufficient wire draw. 21. Legs cross. Wire draw too great. 22. Uneven clinching. Clincher not level and parallel with formers.

MISCELLANEOUS SHIPPING MATERIALS

CREPE WADDING is extensively used as a packaging adjunct in the packing of tablets, capsules, ampoules and various pharmaceuticals, cosmetics, bottled goods, scientific instruments, fragile and highly polished specialties. Such wadding to meet the several requirements should be white, soft, of dependable consistency in thickness and grade and be highly absorbent. Crepe wadding absorbs sixteen times its own weight in moisture. It may be obtained in rolls, sheets and pads.

Crepe wrapping used in packing liquids for mail shipment

For liquids sampling or shipping liquids by mail, domestic and export business, to meet the requirements of the Postal Regulations and the necessities of protection in a high degree, as well as offering light weight and other advantages, absorbent crepe wadding is an ideal packing.

This material, provided in various thicknesses and paper backed, ready for use, is also utilized for box top padding. Among the economies which have been pointed out by companies who have used this padding are the following: due to the paper backing and the flatness and uniformity of sheets, it can be readily jogged in a cutter, while most padding has to be laid out separately, each sheet at a time; the paper backing eliminates the need of placing a padding and a manila sheet on separately when they are applied at the wrapping machine.

Two recent developments in crepe wadding are: first, a new form fancy corrugated wadding has come on the market; second, colors in both the plain and corrugated types. Both developments increase the adaptability of these products from a decorative standpoint to modern requirements in packaging as well as in package display, and are bidding for increasing importance.

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***The covers on this catalogue are made of* Monroe Board**

-- *a* Solid Binders Board *manufactured by Consolidated Paper Co.*

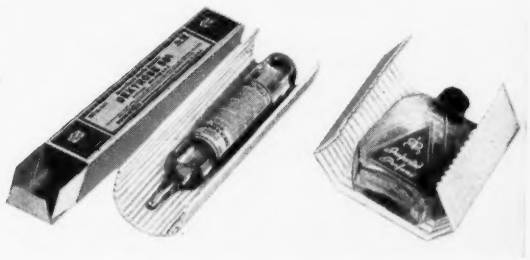
Crepe wadding used as protective pad

PACKING PADS consisting of a kraft wrapper filled with straw or wood excelsior have been a staple packing material for years. During the last two years, paper excelsior pads with sealed ends have been successfully used. In these there is no possibility of the filling sifting out and the absence of chips and hard wooden curls has eliminated marking. For furniture, ice-boxes, stoves, toys, tile, novelties, electrical appliances, etc., these

Packing pads as used for protection in shipment

packing pads give excellent protection at a minimum cost and permit faster, easier packing. They are manufactured in all sizes from 3½ in. × 6 in. up to 15 in. and up to 72 in. in length.

CORRUGATED PAPER is an almost indispensable item of the packing room. For shipping or mailing, a light strong package can be quickly made with corrugated paper. The high corrugations serve to give efficient protection against shock. Such paper is furnished in convenient rolls of 250 ft., 36 in. wide. Where a particularly fine appearance is desired, a sulphite corrugated paper is used successfully. This material gives both shipping protection and distinction and is obtainable in rolls 20½ in. wide and up to 250 ft. in length. PAPER EXCELSIOR, according to laboratory tests, absorbs up to 50 per cent more of the shock than wood excelsior. Actual packing tests showed time savings of 15



Corrugated paper combines lightness with strength in shipping

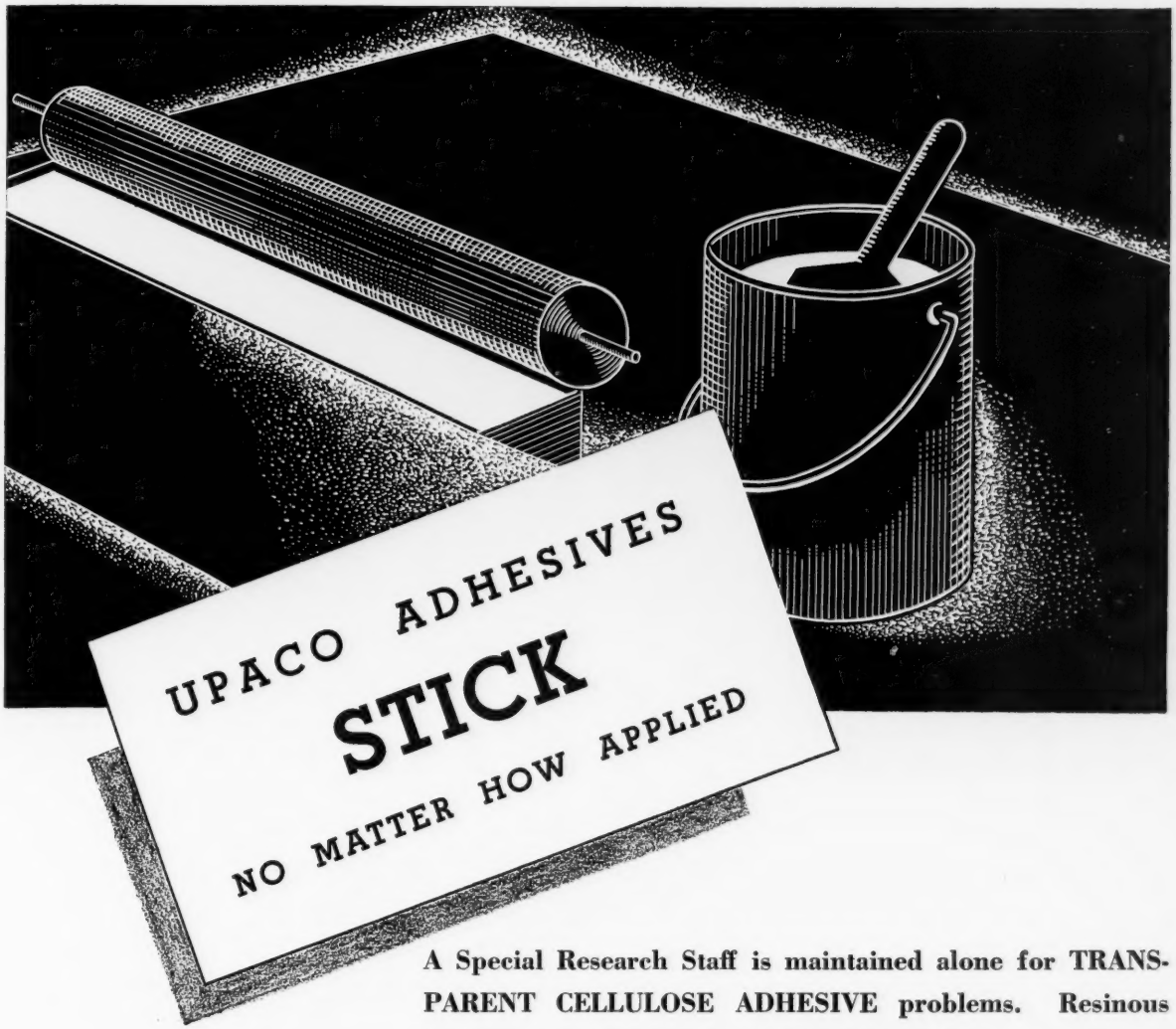
to 20 per cent. Despite these qualities the price of paper excelsior in the past curtailed its use. However, under present prices due to large scale manufacturing, some grades are more economical than wood excelsior.

Paper excelsior impregnated with mineral oil reduced scald on fruit in storage from 65 to 4 per cent, according to the Department of Agriculture. This has made possible the packaging of produce without wrappers which destroyed the appeal of the fruit itself.

More and more food, cosmetic and novelty manufacturers are using brilliantly colored paper excelsior to dress up their packages. Notable examples have been Heinz, Armour, Beech-Nut and Kraft Cheese.

Paper excelsior used for protection and display

ADHESIVES that ADHERE



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XUM

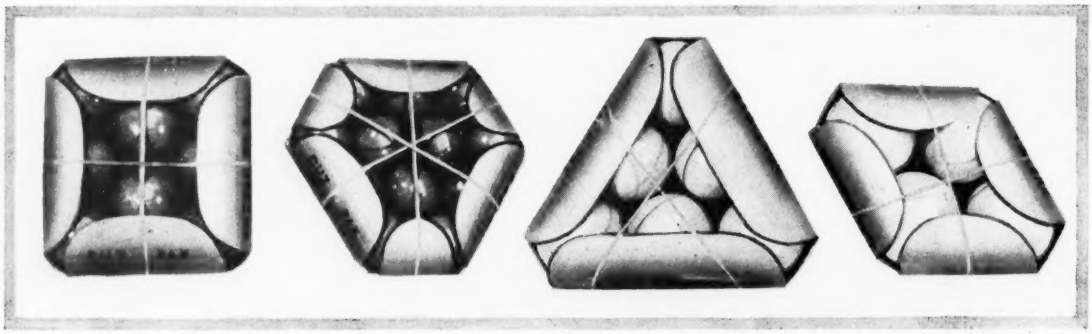
TYPES AND USES OF MOLDED PULP CONTAINERS

BECAUSE of the raw material used and the method of manufacture, molded pulp is adaptable to an infinite variety of products. It can be formed in any shape or size, the resulting product being entirely seamless, exceptionally strong and durable, yet light in weight. Any type of box or closure can be used on a pulp container. It can be treated before molding, and made waterproof. After being formed, the container can be coated, colored as desired or otherwise treated, both inside and outside, to make it oilproof, moistureproof, or to hold any one of a great variety of liquid, solid or dry products. Containers may be labeled in any manner desired; other products such as premiums, advertising novelties, etc., can also be decorated as required.

There has been considerable recent development of containers for numerous products, of which perhaps the most outstanding are a one-trip bottle for milk, designed particularly for store use, and a one-quart tamper proof motor oil container. Both products are nearly ready for presentation to the trade, and it is expected that they will be on the market soon.

Molded pulp containers for milk, coffee, drugs, cleanser powders, etc., are light, strong and sanitary. Color added to the pulp itself makes a distinctive background for the label. Such containers can be molded in any shape, and any type closure can be assembled

It is stated that because of their conventional shape, molded pulp milk bottles can be filled and capped on standard dairy equipment. The bottles are strong, light in weight (2¼ oz.) and said to afford complete protection to the milk. The bottles are sterilized and



Consumer display packages of molded pulp for fruits and vegetables. Obtainable in designs for various quantities

Molded Pulp Containers — Die Cast Boxes — Fancy Wooden Boxes — Paper Cups — Printed String — Cellulose Ribbon

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paraffined at 150 deg. F. by a simple unit installed in the dairy. The conventional type of closure permits of easy opening and resealing by the consumer.

The molded pulp oil container is being improved to the extent of changing the shape somewhat, lining it with a newly developed coating and using a different type of closure. The new container is expected to be ready for market in the near future. It claims certain unique advantages, in that it can be opened without the use of any tool, and poured into the crankcase without the use of a funnel, and can be easily disposed of by crushing or burning. The oil bottle is tamper-proof, since the act of opening tears the upper portion of the neck, thus indicating usage of the contents.

Besides these two large fields for consumer packages, molded pulp containers offer distinct advantages in use for various dry products, such as cleansing powder, coffee and spices, salt, insecticides, household drugs, fertilizers, seeds, etc. and properly coated for many varieties of liquid and solid products, such as oils, soap, lard, cheese, etc.

In addition, the ability to mold in any shape or size facilitates the production of many items, which do not come under the heading of containers. For consumer uses, these include such products as flower pots, fruit baskets, covers for bottles and specialty items. For industrial uses such items as wire coils, yarn cones and other units, where strength and light weight combined with low cost are important factors, may easily be manufactured from molded pulp.

THE USE OF DIE CASTINGS FOR PACKAGES

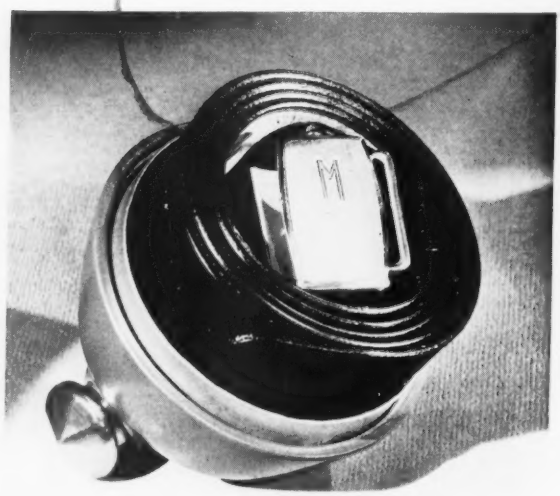
BY LESTER H. PILLION

WIDESPREAD INTEREST in packaging and the proven sales results achieved through well-thought-out packaging designs and application has naturally led to a greater and wider use in materials. The last three years have shown the possibilities of various metal containers and, in particular, the general value of re-use containers made from die castings. Zinc and aluminum are the major metals used but tin and lead castings have also had applications. Brass die castings are as yet untried, but undoubtedly the surface qualities and coloring of brass will cause its inclusion, even though its present cost is high, within the next year. Die casting itself gives the metal package or display a feeling and appearance of quality, solidity and strength. When the design utilizes the process in modern interpretations the packages, as in the case of the Doehler de-

Zinc die cast cover for frosted glass utility box

signs, for the Hickock Belt Company, can be striking indeed. Furthermore, if the production runs into high quantities the process can be very economical.

In combination with glass and plastics, die castings and aluminum and zinc can produce not only pleasing relations but wide possibilities of color interpretation. With a plastic base and a die cast cover, the plastic, such as Plaskon, being intrinsically highly colorful and the die cast cover a lustrous chromium plate, a fine combination is achieved. Furthermore, the chromium plate with its mirror-like surface serves as a reflecting medium for selecting color. It must also be remem-



Cocktail shaker top of die casting used as belt display

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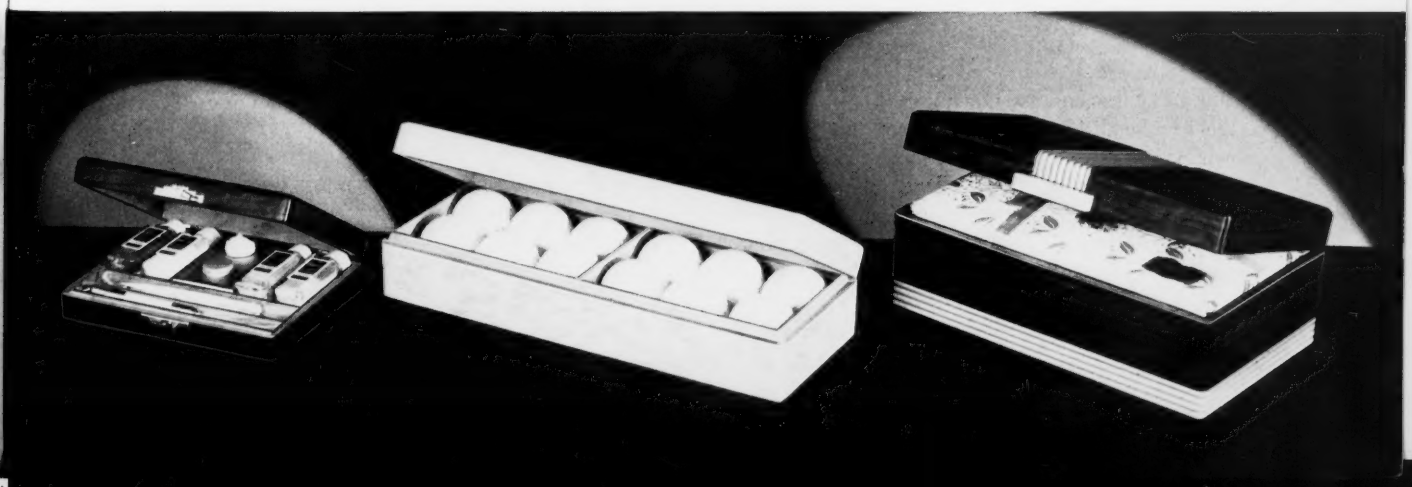

XUM

Die cast closures as applied to charged-water containers

bered that die castings themselves can readily be finished in color, thereby making it possible to achieve this same two-tone combination on an entirely die cast container. High decoration can be incorporated in the die, and ingenious finishers are using imitation cloisonne and other effects to produce very attractive re-use containers. Since finish is so important in packaging it might be well worthwhile to sum up briefly the finishing possibilities of die castings.

In the packaging industry, zinc die castings are either electroplated, enamelled, or finished with a combination of plating and enamel. Display placques, clock cases, jewelry boxes, pen stands and re-use packaging containers are being finished with combinations of variously colored enamels and highly finished chromium plate which have excellent eye appeal. Chromium plate is the most popular electroplated finish. Although it can be deposited directly to the zinc base, the common practice is to deposit first a layer of nickel followed by a chromium finish. Brass, bronze, gold, silver and other metals may also be readily applied over a good primary coating of nickel.

Other finishes which greatly enhance the appearance and increase the sale of packages are brilliant enamels and lacquers, and lustrous japans. Still another attractive arrangement is brought about by using a combination of plated castings with various colored plastics.

Aluminum base alloy die castings are capable of being finished in the same ways as are the zinc base die castings. In many cases, however, the aluminum itself is polished to give a high lustre which is retained indefinitely under ordinary atmospheric conditions. In addition aluminum die casting packages are given similar attractive finishes such as a satin or frosted finish by scratch brushing. The Anodic Oxidation process—applicable to aluminum packages alone—is one of the best means of providing colorful, lasting finishes to their surfaces. In the Anodic process the aluminum casting is made the anode of an electrical circuit and immersed in a suitable solution. The oxide coating obtained is formed of the metal itself, and will not chip or flake like enamel or paint coatings. Further, the coating is capable of taking aniline dyes, permitting endless color possibilities.

FANCY WOODEN BOXES AS PACKAGES

BY E. H. BERGIN

THE DESIGNING and manufacturing of a wooden box for the merchandising of a specific product is no longer confined to simple rules of box making. Today, there is a definite understanding of all involved principles, with the result that wooden boxes have found a prominent place in the field of packaging. A more thorough understanding on the part of advertising agency executives and designers as well as the individual package buyer of the adaptability of wood working plants to the box idea to be created, has resulted in many improvements in the beauty, serviceability and selling achievement of many wooden boxes. The sales responsibility placed upon a wooden merchandising package is naturally larger than is the case with many other types of packages due to cost. Therefore, the development of any wooden package must be approached carefully.

Since all wooden merchandising boxes are made either of all lumber or veneers or a combination of

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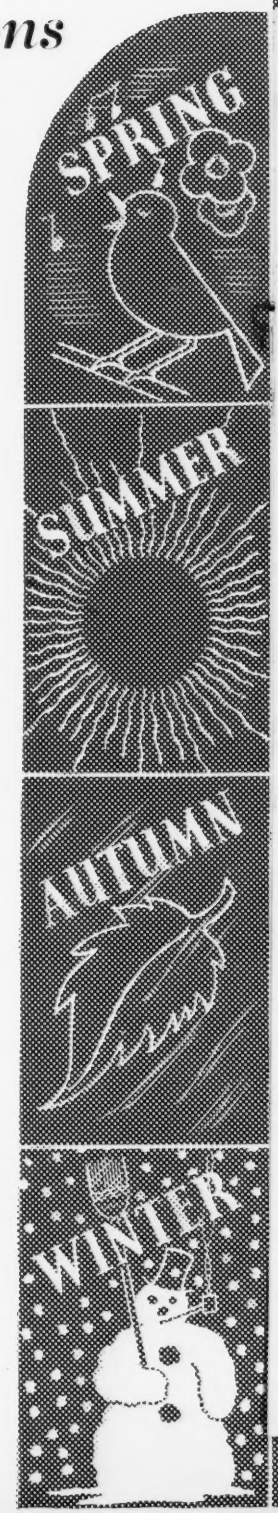

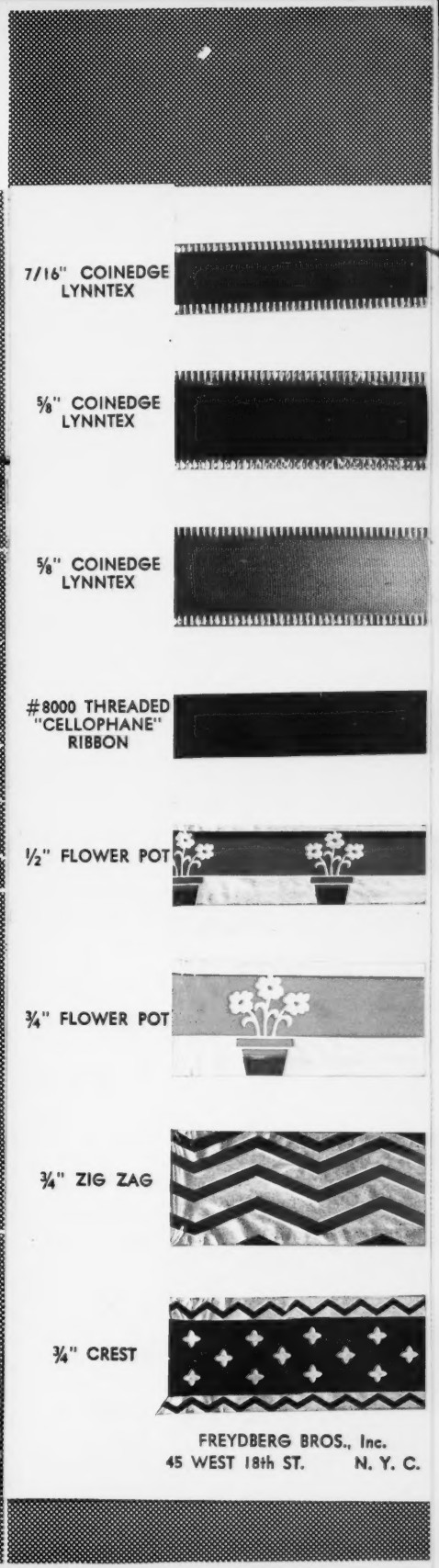

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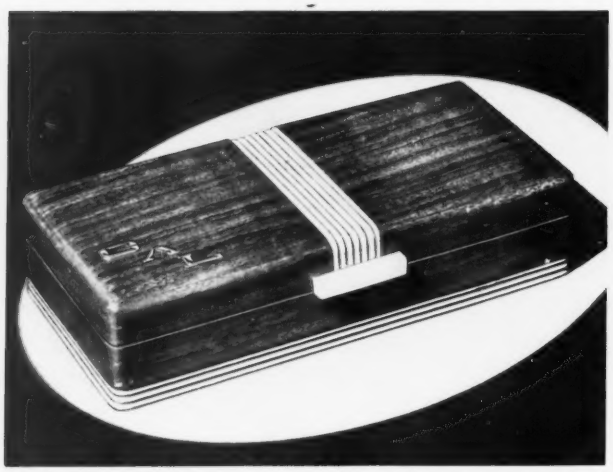
both, the manufacturer's first consideration is the kind of lumber needed for the job. The most widely used are gumwood, poplar, basswood, cedar, mahogany, walnut, maple and redwood. Most of the larger manufacturers buy air dried stock in 4/4 and 5/4 thickness and fabricate it to proper sizes and thickness in their own plants. Drying of lumber before fabricating is perhaps the most important item of consideration in box making. Large modern dry kilns with up-to-date testing methods are a part of every modern factory. The process of properly kiln drying lumber for cabinet use is one that requires not only the right kind of equipment but a great deal of skill and experience if desirable results are to be obtained.



New beaded effects in solid wood, applied to utility boxes, afford pleasing combinations

The work starts by the proper piling of the lumber, separating it by the right thickness sticks, depending upon the thickness of the lumber to be dried, insuring circulation of air around the lumber. When the lumber is placed in the kiln, the temperature is slowly raised about 120 deg. F. and the humidity to 100 per cent by turning live steam into the kiln, so that it circulates around the lumber, moistening the surface.

From this point readings are taken every few hours using a wet and dry bulb thermometer and then the temperature is gradually raised from 120 deg. to 170 deg. over a period from five to eighteen days, depending upon the thickness and kind of lumber, and the humidity is gradually lowered, as the temperature is raised, from 100 to 40 per cent. Towards the latter part of the drying schedule, the operator takes frequent tests to ascertain if the lumber is being reduced to the proper moisture content and if the lumber is otherwise arriving at a satisfactory condition.

It is not only essential that the lumber be reduced to the proper moisture content but the reduction of the moisture should be done gradually and in a way to insure an even distribution of the moisture remaining in the lumber, so that in the process of manufacture it will not warp and twist and the finished article will retain its shape and good appearance.

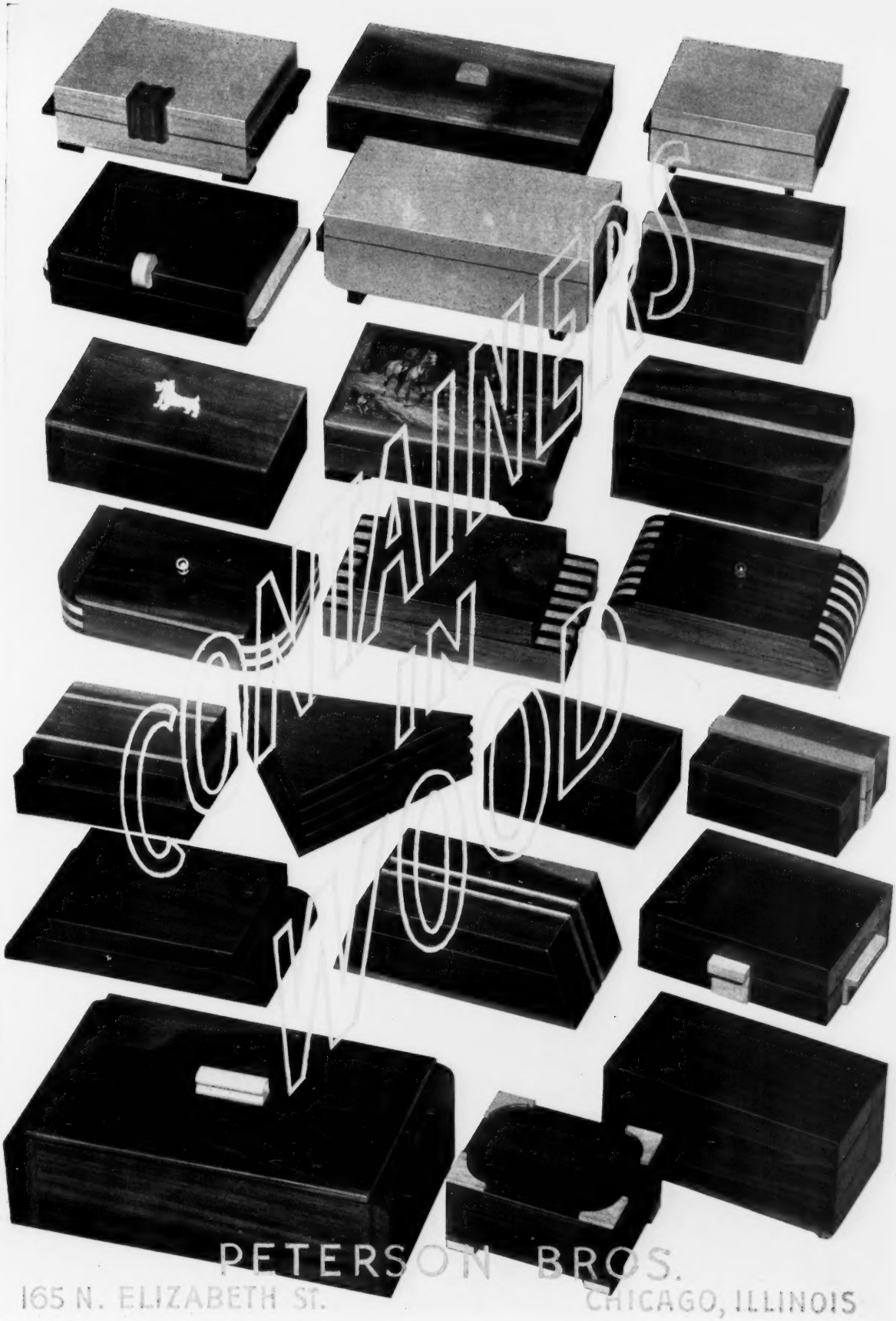
High speed machinery with knives and cutters that are kept sharp are necessary to turn out boxes of various shapes and sizes demanded by present day packages. After the sides and ends, top and bottom are cut and the box put together with lock corner or tongue and groove joints which are also glued, the next important step is the sanding operation to prepare the surface of the box for the finishing materials. A box is usually sanded three times before it is ready for the finishing department. First, there is the sanding on a huge disc that sands smooth the edges of the box frame so that tops and bottoms may be glued on evenly. Then another disc sanding squares up the edges of the box knocking off all rough edges. From this operation the box then is sent to a flat belt sander where finer sanding paper removes all marks of the rough disc sander. The next sanding is immediately after the box has passed over the waxing table where all holes, knots or other defects in the wood are filled with a neutral colored wood putty or wax. This final sanding is called the polishing sanding. The box is now ready for the finishing department.

The finishing of a cedar box is a comparatively simple job, providing an excellent grade of shellac and varnish or lacquer is used. After one or two coats of shellac are applied as a sealing coat, each box must be hand sanded to remove the raised grain of the wood and then the varnish or lacquer is applied for the final coat. After these finishing coats, boxes must be kept in a dust proof drying room of the right temperature twelve to fourteen hours.

The application of other finishes, particularly in colors involves more detail. In applying a black lacquer for example, a box must be first given a coat of lacquer sealer over which is applied a heavy body coater called surfacer or undercoater. Between each application of sealer and surfacer a hand sanding operation takes place to provide a smooth surface. Then the box is ready for the final coat of black lacquer. Sometimes two coats of black are applied and often times a coat of clear gloss or flat lacquer over the black. The result is a deep, rich ebony satin-smooth appearance that decidedly enhances the value of the box.

The latest development in finishes as applied to boxes are exact duplications of expensive grained woods such as birdseye maple, ribbon walnut, burl walnut, ripple mahogany and others, by a printing process. For several years automobile manufacturers have used this process on instrument board panels and interior window trim. The process is patented and is applied by special machinery designed for wooden boxes. The small cigarette box illustrated on this page shows a ribbon walnut grained box. It is an exact reproduction of an expensive piece of ribbon grained walnut.

Another departure from conservative types of boxes is the beaded effects that are obtained across the top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and around the bottom. These beads are cut out of the solid wood and are so perfect that they seem to be moulded and set in place. This appearance is noted in the cigarette box illustration shown. By the use of color in these beads, plus a small lid lift in front, many pleasing combinations are created.

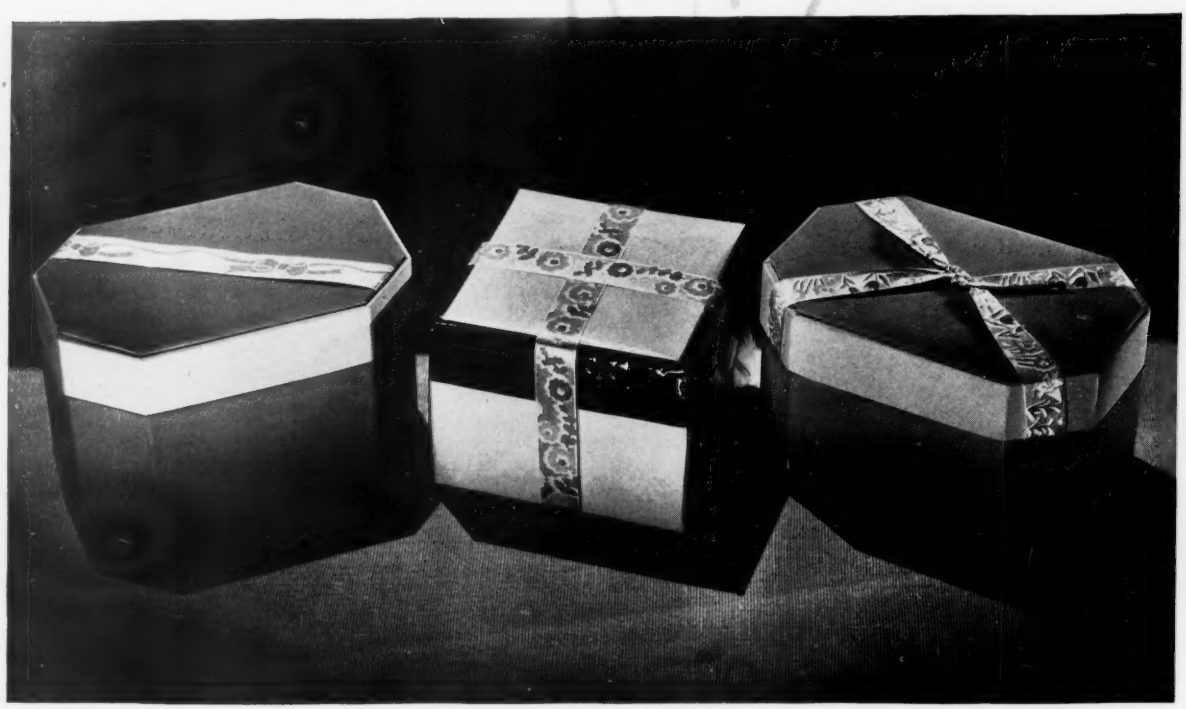
Interior decorations for wooden boxes vary with the purpose for which it is intended. Rayon silk of a high lustre sheen is mostly used in a cedar box while velveteens, satins, silks, fancy papers and other lining materials are used in the lacquer enameled or synthetic grained boxes.

Silverware manufacturers are perhaps the largest users of fancy wooden boxes as merchandising packages for silverware. Such boxes require the finest finishing materials and linings are usually of plush velvet and satin. An industry that is quickly coming to the front in the use of fancy wooden gift boxes is the baking industry who use them for packing fruit cakes. The re-use value of such boxes after the fruit cake is removed provides the added incentive for consumer acceptance. The sales experience of 1935 users will undoubtedly be the beacon light for other bakers who are seeking the unusual package at a price within range.

USES OF PRINTED STRING IN PACKAGING

BY R. L. HEARD

THE MOST IMPORTANT DEVELOPMENT in the production of printed string that has ever taken place was the perfection of a process for multicolor printing which means printing in two, three and four colors on either white or colored cotton tape or ribbon. Prior to the initiation of the multicolor process it was possible to make printed string in any color or design, whether these colors were to match the customers' boxes, labels, wrappers, seals, etc. or in standard colors. The only limitation before the perfection of this process was that the vast majority of designs had to be in stripes. Now, in addition to the use of colored yarns, four additional colors can be printed if necessary, and users may obtain an exact match to anything that they might want. Of course, there is one limitation on this and that is the quantity. The quantities, in order to obtain a special



For decorative tying printed string has been successfully employed by department stores and several industries

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Add sparkle and luster to your package . . . give it eye appeal . . . *sales appeal* . . . by tying it with a colorful Du-Tone Ribbon. The low cost at which you can accomplish this will surprise you.

Du-Tone Ribbons can be obtained in a wide variety of colors and patterns to suit your particular needs. Available in combinations of transparent or colored centers, silk with metallized edge, or in printed ribbons of Cellophane in varied designs. Widths: ¼ inch to 5 inches. Triple-edged thickness imparts unusual strength to Du-Tone Ribbons.

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design, have to run in minimum lots of 100,000 yards and over. Large as this might seem, however, it is comparatively small because there are thousands of concerns throughout the country who are using at least 100,000 yards of tying material a year and many of them who are using millions and millions of yards.

Printed string during the past few years has come to be almost the standard gift tie with the department stores and they are using it in large quantities. If they want something that is essentially an advertisement in addition to beautifying their packages they can have their designs prepared, for reproduction, by their own artists. On the other hand, among the department stores, there are those who prefer white with gold or silver edges. This always make a beautiful and sensible gift package. Some of the stores are using printed string in addition to fancy or plain tissue papers and others are simply using it alone as an adornment to their particular boxes.

Perhaps the largest industry at the present time using printed string is the textile field, particularly manufacturers of cotton goods—sheetings, pillow cases, towels, etc. The essential use purpose of this material for cotton goods manufacturers is two-fold, that of tying their products and at the same time adding decorative value. For sheets and pillow cases, as a concrete example, printed string of special design matches their present tickets or labels and thus becomes an integral part of the package itself. Another widespread use of printed string is on the special sets which the towel, sheeting and pillow case manufacturers are putting on the market through department stores, etc. These sets are usually wrapped in transparent cellulose.

Since the advent of multicolor printed strings, manufacturing confectioners are users of large quantities of this material, and practically the same thing that applies to the textile manufacturer applies also to the candy manufacturer in so far as colors and designs are concerned. Each order may be manufactured to the customer's own requirements and, therefore, he may change his requirements as he wishes from time to time. The same thing applies to manufacturers of toilet preparations who are using fancy bottles or packages and who use ribbon for decorative purposes.

USES OF CELLULOSE RIBBONS IN PACKAGING

BY N. J. STRAUSS

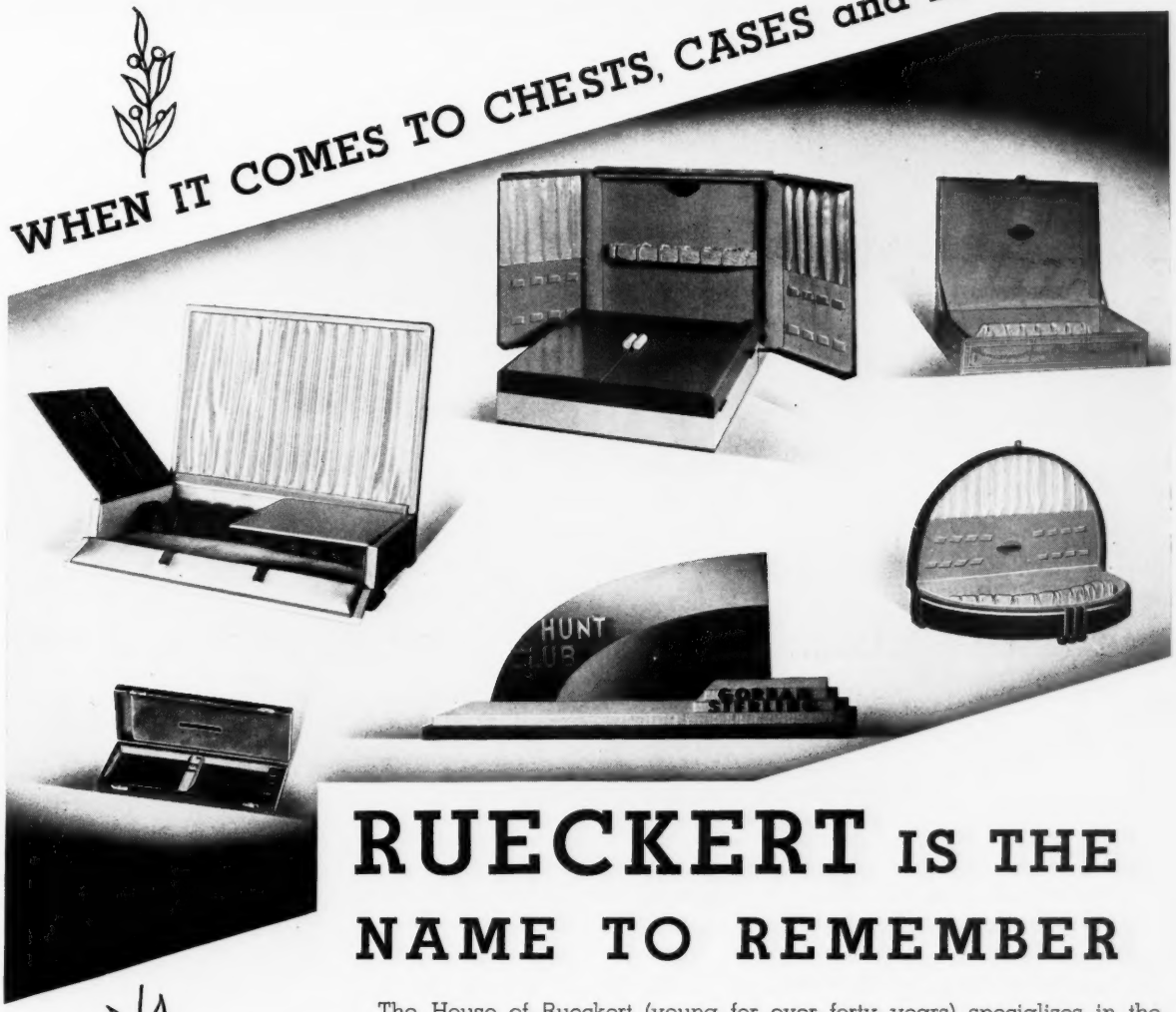
CELLULOSE RIBBONS were introduced to the trade about five years ago. In the short span of time since their introduction, they have become among the most popular decorative tying materials that have ever existed. There are definite reasons for the wide acceptance of cellulose ribbons. First and most important, of course, is the fact that they are cheaper than any other type of decorative tying material. The reason for this is quite simple. The making of fabric ribbons such as silks, satins and tinsels is accomplished upon a loom. Weaving narrow fabrics is a slow, arduous and costly process. Therefore, ribbons of this type are necessarily more expensive than cellulose ribbons which are cut, treated and folded.

The basic material used in these two types of material also influences the price. The price of silk yarns and tinsels fluctuate constantly, and in the past six months have been increasing in price, whereas the cost of cellulose sheeting for the period of several years has been constantly declining.

There is more flexibility to the manufacture of cellulose ribbons than any other type of tying material. This is another point which influences the price. As far as the ribbons themselves are concerned, cellulose offers a brilliance of lustre and color that cannot be duplicated. In package tying, we go back to the basic principle of the eye-catching quality of brilliant lustre. Scientifically, it has been proven that the human eye will be more quickly directed towards a shining object than towards a dull one. Therefore, packages that are decorated with cellulose ribbons will, at all times, have a more direct effect upon the consumer than those tied with the duller types of tying materials.

Due to the extremely efficient facilities that have been created for the manufacture of cellulose ribbon, it is easy to imprint these ribbons with patterns appropriate for each individual holiday. Cellulose ribbons are now manufactured with patterns appropriate for Christmas, Easter, Mother's Day, Hallowe'en, Thanksgiving, Fourth of July and many of the other less important occasions. Cellulose ribbons in themselves have opened up an entirely new field in decorative tying. They are extremely easy to handle.

Cellulose ribbons, being completely transparent, offer a unique advantage to packagers. It is possible to decorate a package without hiding any portion of it. This is particularly advantageous in the tying of food products. As a matter of fact, cellulose ribbons are frequently used to emphasize some portion of the package; namely, if a large packager has a particular part of the package which he wishes to stand out, he can tie over this portion with a colored cellulose ribbon and it will have the effect of magnifying that particular portion of the package. Due to the fact that cellulose film



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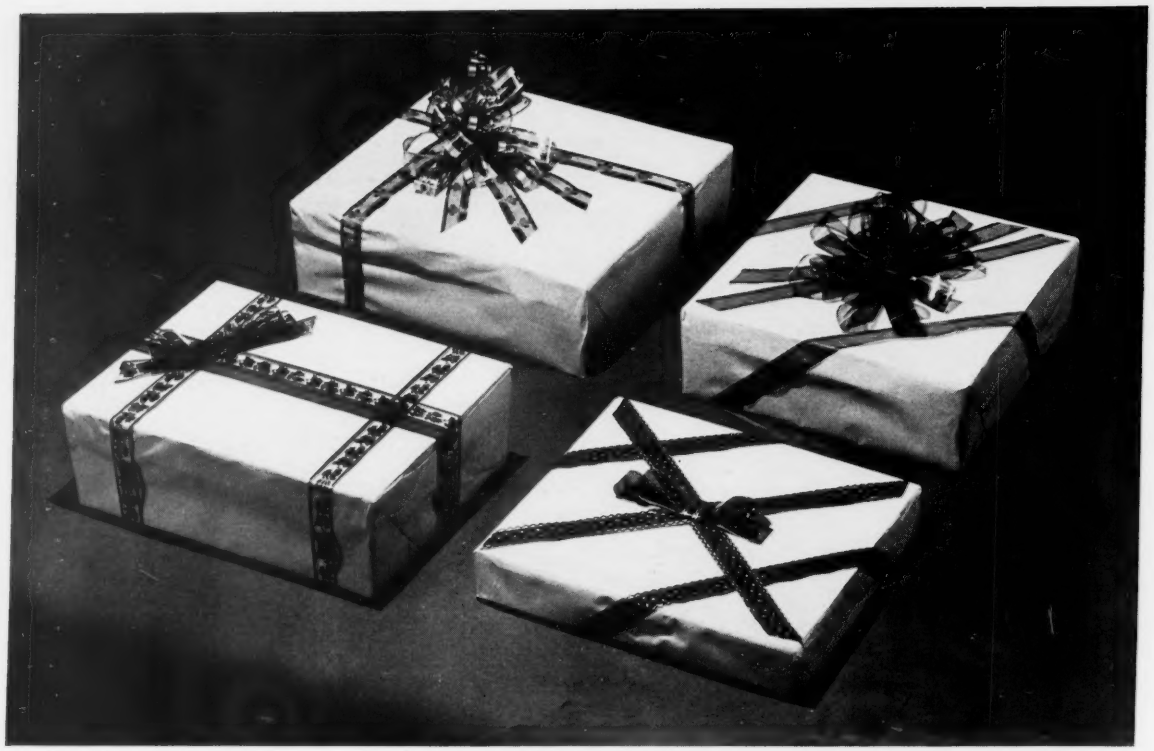

Brilliance of lustre and color are obtainable in transparent cellulose ribbons as applied for tying purposes

is in itself sterile, it is of definite advantage as a use in the tying of food products. Cellulose ribbons do not fray, they do not become soiled or shopworn. They are now manufactured in all widths from ¼ in. up to 3 in. or 4 in. and are readily available in hundreds of patterns. In the main, too, they may be had in anywhere from fifteen to twenty colors.

We have spoken of the method of manufacturing cellulose ribbon, which brings up another point of great importance to the advantage of these materials. Cellulose ribbons are cut, decorated, treated and folded. A special treatment under which one brand of ribbons are manufactured includes a process which softens them and makes them impervious to weather and climatic conditions. Such ribbons, under these circumstances, will last for an indefinite period. It is possible for a large packager to put in a substantial stock without fear that it will deteriorate. The treatment is a rather unique process which adds strength to the ribbon and makes it particularly soft and flexible for tying.

In addition to the wide industrial use that is made of cellulose ribbons, an enormous consumer acceptance has been built up for ribbons of this type. Such ribbons are now sought after by the consuming public as the ideal decorative tying material for gift packages for Christmas, Thanksgiving, Easter, Mother's Day, etc. It has been maintained that what the consumer accepts for his own packages will undoubtedly be particularly sought after in industrial packages. Cellulose ribbons are packaged in large bulk units for industrial use, and in small rolls for consumer use.

Paper Cups and Containers

The term "paper cups" applies to those containers used for drinking water and ice cream soda service. "Paper containers" are of heavier weight and used in the distribution of food products. Types shown include wood fibre containers, two ply or double rolled, plain and wax treated, with and without covers

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A new treatment of wooden boxes for regular packaging having definite re-use purposes. Economical, permanent, beautiful, these boxes have excellent display as well as container value.

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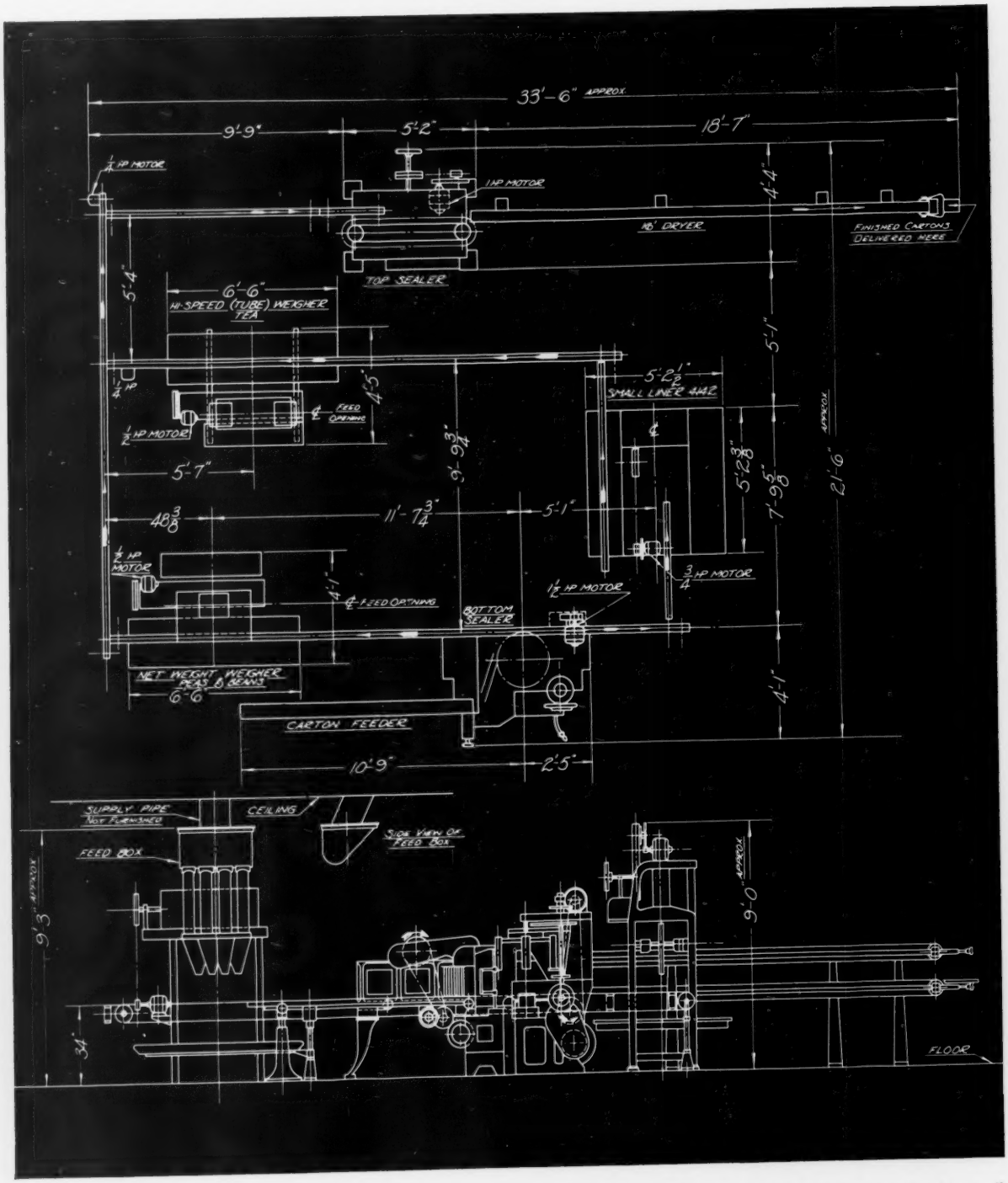
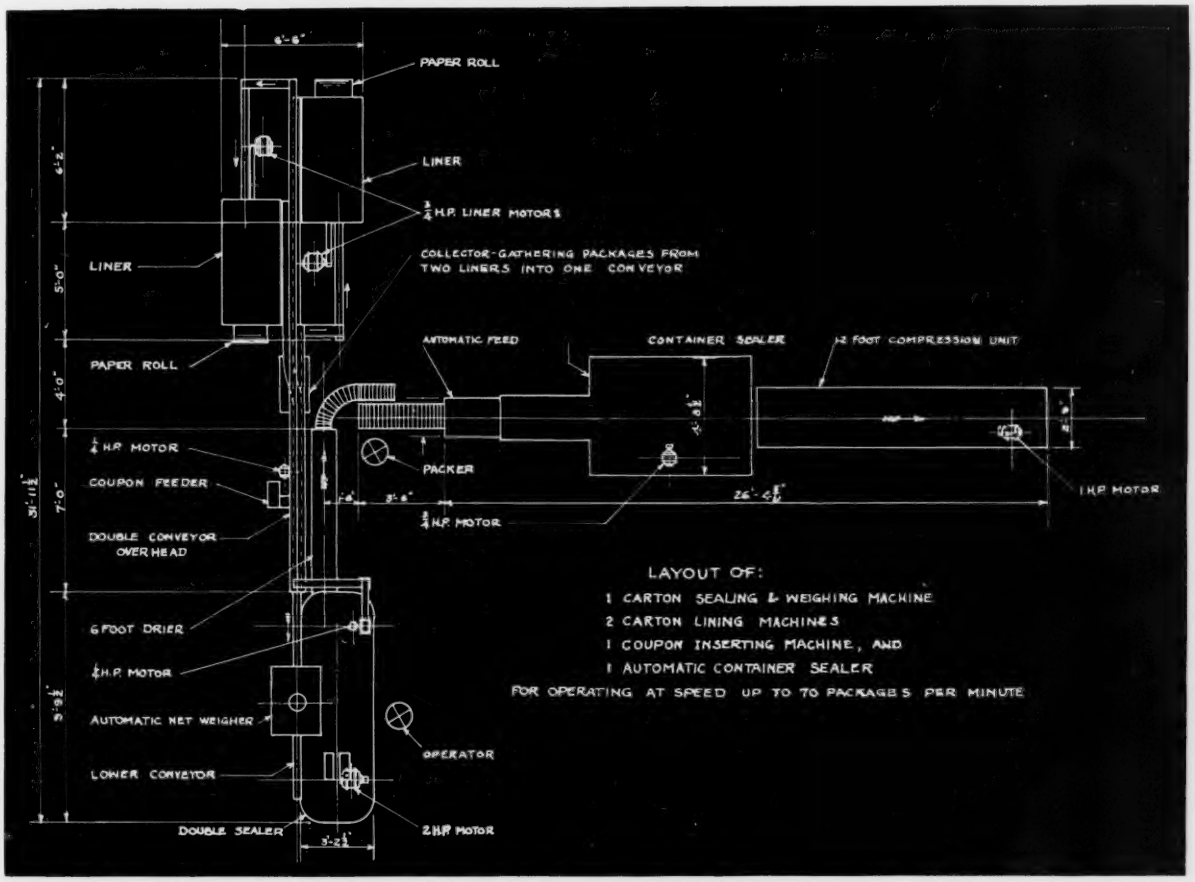
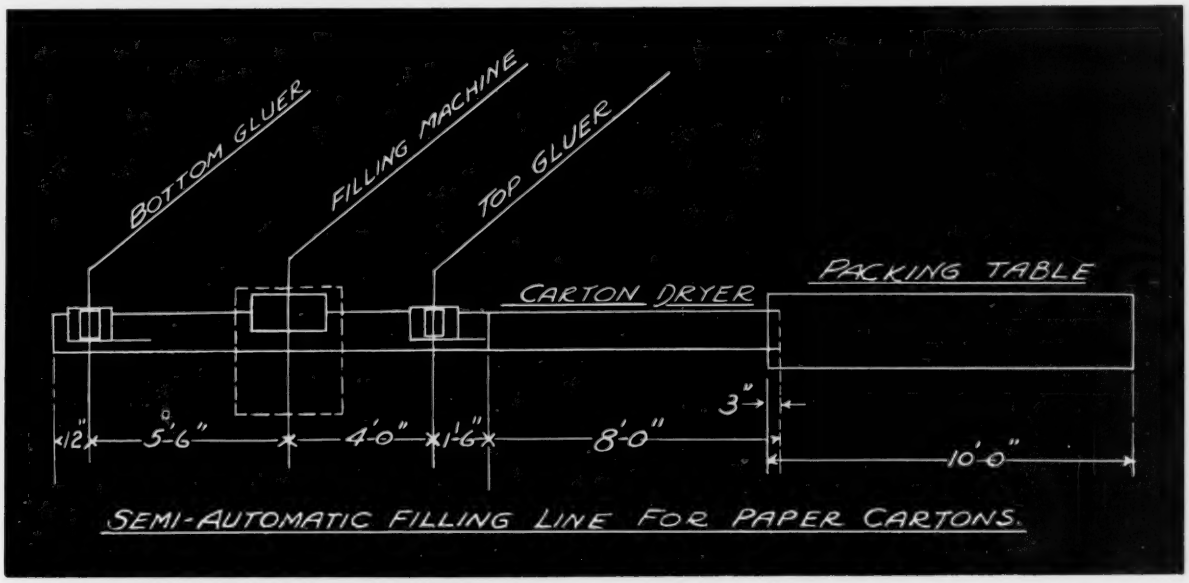
PLACEMENT OF PACKAGING EQUIPMENT



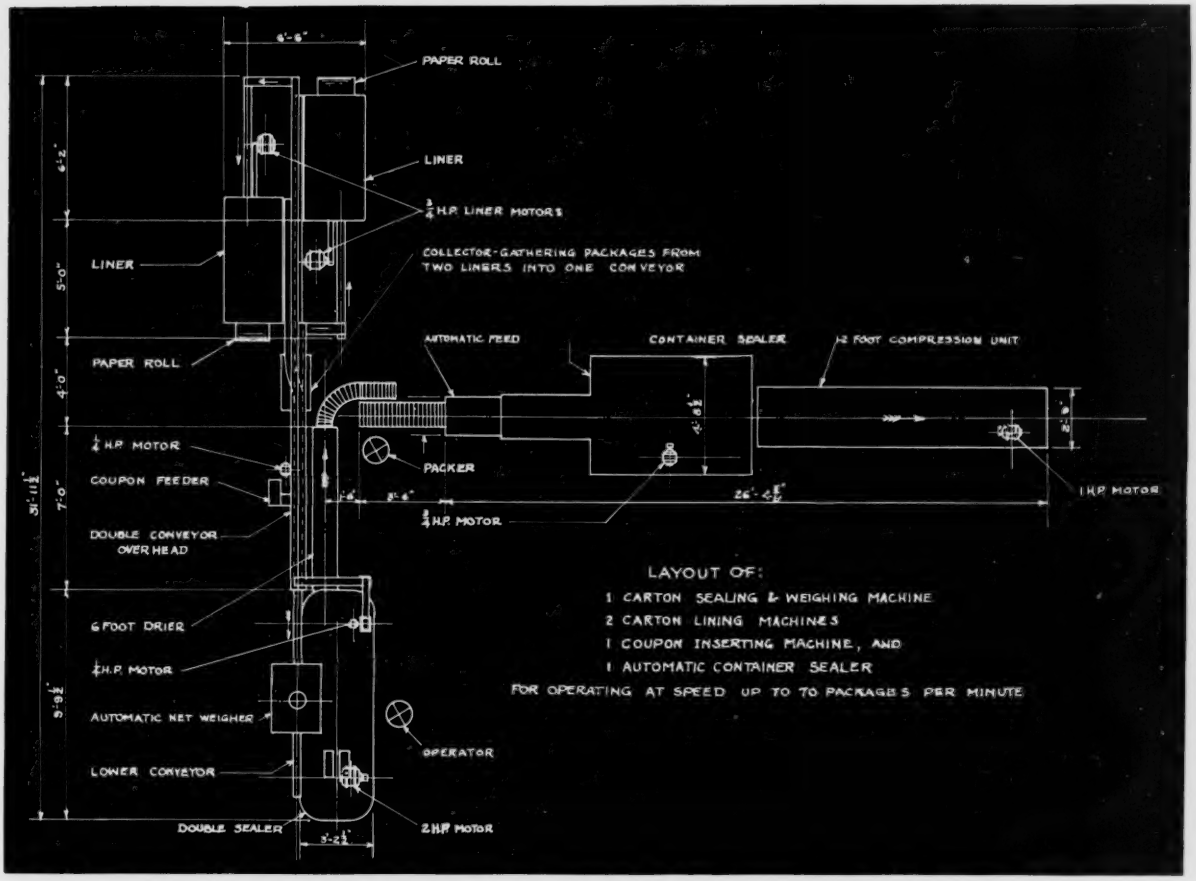
Floor plan and elevation diagrams of packaging equipment used on two different types of products; i.e., those requiring lined as well as unlined cartons. The respective lines may be traced as follows: The carton blanks for both are supplied to the bottom sealer (see lower center of floor plan) and, after forming and bottom sealing, the cartons to be used proceed by belt to a net weigher. Properly filled, these are then conveyed to the top sealer for closing and, after passing through the dryer, are delivered to the packing table for placement in the shipping containers. This line, as stated on the floor plan, is used for the packaging of peas and beans or other similar products for which net weighing is suitable. Cartons which are to be lined, after being bottom sealed, are conveyed to the lining unit and from there proceed to a high-speed (tube) weigher. The filled cartons then join the main line of travel to the top sealer; from that point being delivered by belt to the packing table. Courtesy of Pneumatic Scale Corporation, Ltd.



Plan of automatic line consisting of carton sealing and weighing units, lining machines, coupon inserting machine and shipping container sealer. Two operators—other than those required to furnish material—are needed, and up to 70 packages per minute may be produced. By a series of conveyors the formed cartons are fed to the lining machines, thence to the filling unit and, before final sealing, a coupon is inserted in each package. This arrangement permits economical use of floor space. Courtesy of J. L. Ferguson Company



Floor plan showing typical installation of semi-automatic equipment for ordinary carton filling and sealing. In this case the cartons are set up by hand and placed in the bottom sealer unit and are handled automatically through the filling machine and top sealer. Reaching the packing table they are packed by hand in shipping containers. Because part of the work must be done manually, it is essential to provide adequate room in which the operators may work. Ordinarily this simple equipment is arranged in a straight line although it may be varied if placed in a confined area. Courtesy, Consolidated Packaging Machinery Corporation



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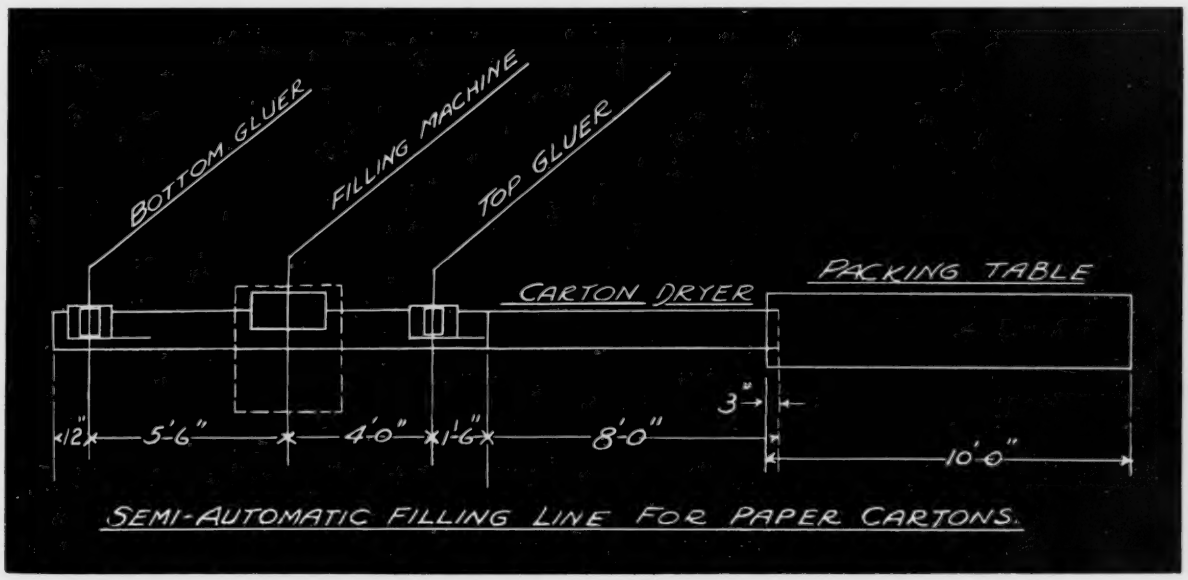

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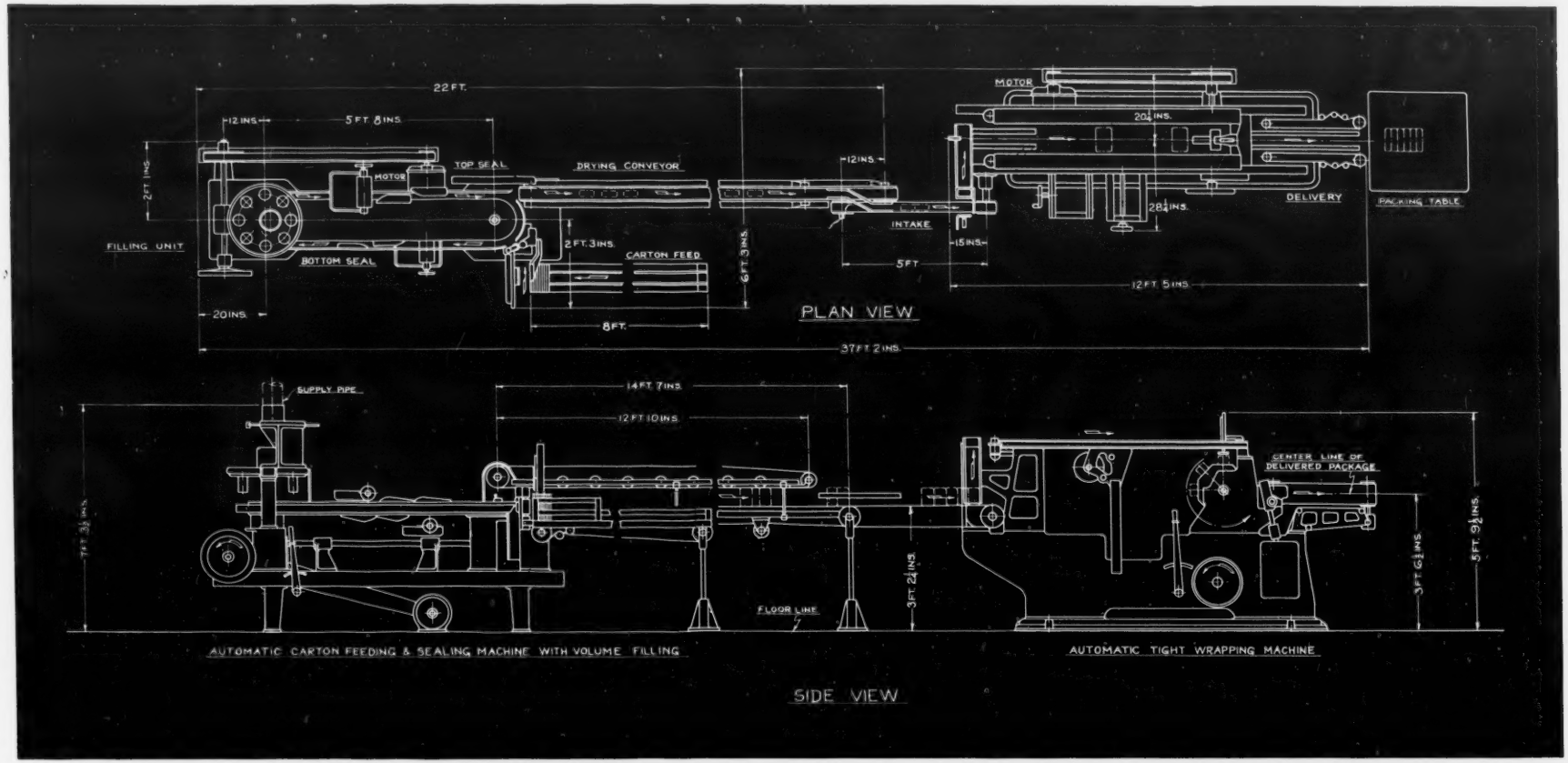


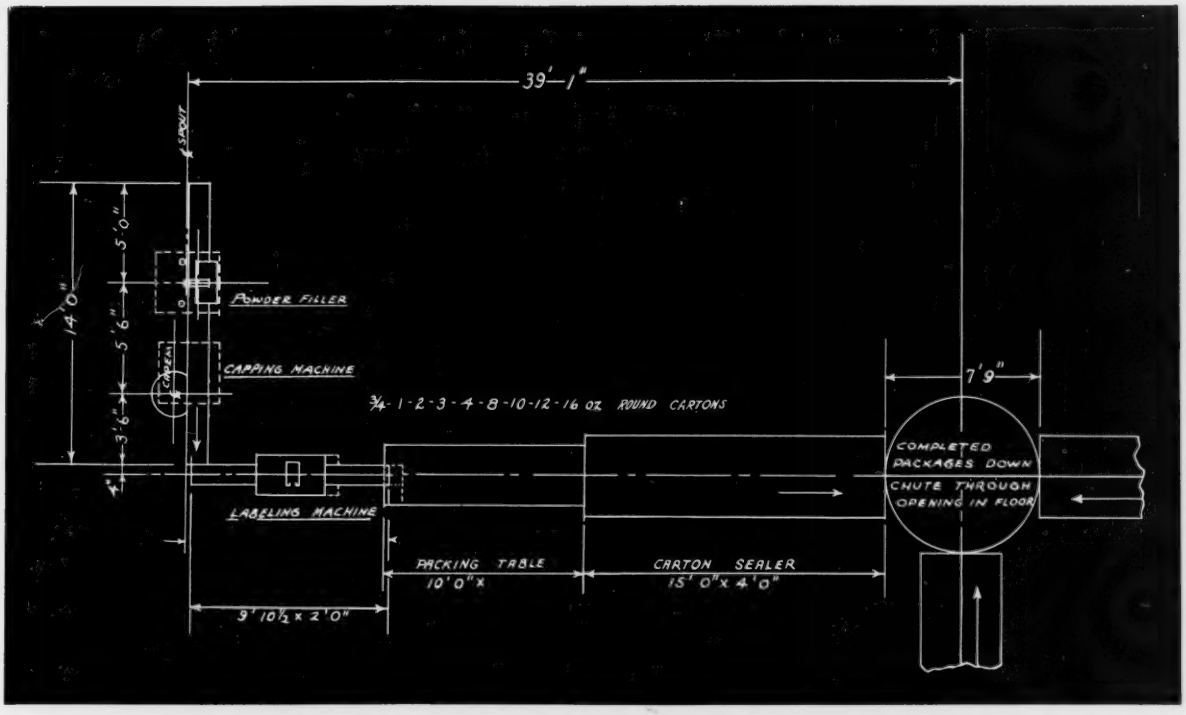
Shown above in floor and elevation plans is a complete packaging line which includes an automatic carton filling and sealing machine in combination with an automatic tight-wrapping machine. This line would automatically feed the cartons from a supply, bottom seal them and fill them with the desired amount of material, filling through special adjustable measuring flasks arranged in a turret mechanism, particularly suited for free flowing products such as salt, sugar, soap powders, etc. After filling, the cartons are automatically top sealed and carried on a conveyor into the tight-wrapping machine where they are automatically tight-wrapped with the printed label and discharged ready for packing in the shipping containers.

If a regular printed carton is used and not tight-wrapped then the same carton filling and sealing machine would be used without the tight-wrapping machine. This complete line has a production up to 60 to 70 complete packages per minute. The machines are made in various styles and sizes and are changeable or adjustable within certain limits. This drawing has been furnished through the courtesy of Stokes & Smith Company.

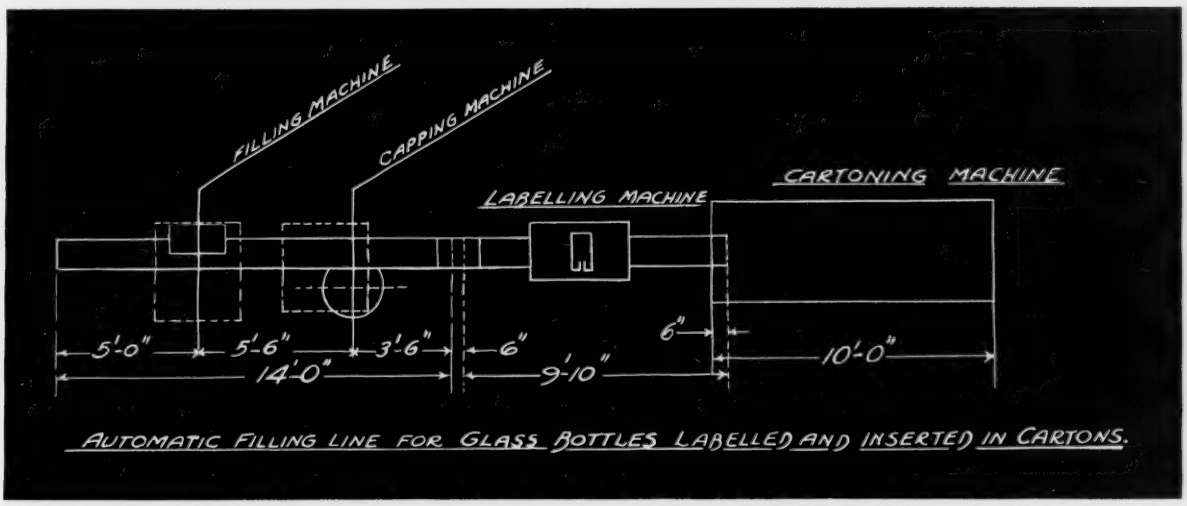
As may be seen, this plan assumes that ample room—an over-all length of 51 ft.—is permitted. However, if less space in one direction is desired, it is possible to regroup similar equipment through a rearrangement of the conveying units. There are, of course, certain advantages to be gained in longer lines of travel, particularly between units which perform sealing or gluing operations and where a longer time for drying is found to be actually advisable.

It should also be pointed out that packaging equipment should be placed advantageously in the plant, with relation to the product supply as well as to the shipping department. Customary practice, when all operations are not confined to one floor, is to segregate packaging on one floor situated between the products and shipping departments so that advantage may be taken of gravity flow production rather than to employ elevating equipment.

With very few exceptions, users of packaging equipment are not unwilling to permit visitors in their plants for the purpose of studying the placement of equipment. In addition to this source of information, the prospective user can always consult with his machinery manufacturers.



Floor plan of equipment for various kinds of dry materials. Straight line production from material supply to packing floor, via chute. Packages from two other similar units discharge into one chute. Courtesy, J. L. Ferguson Co.



Floor plan showing typical equipment installation of automatic filling, capping, labeling and cartoning units as arranged for liquid products. Courtesy of Consolidated Packaging Machinery Corporation

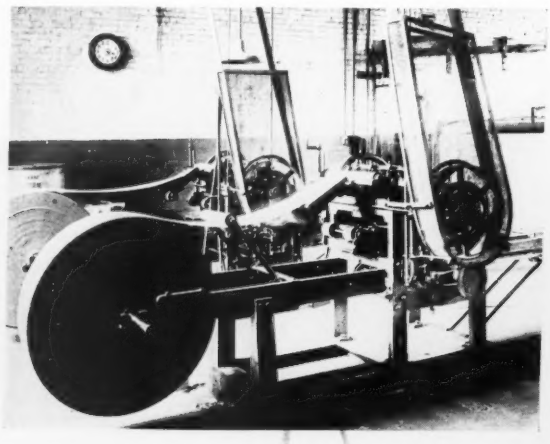
OF CONSIDERABLE IMPORTANCE is the proper placement of equipment in the packaging plant. Whether the operations performed are manual, semi-automatic or full-automatic, the arrangements should be such as to provide economy of floor space and permit the work of each operation to precede the following with dispatch and convenience. On this and the three preceding pages are shown typical floor plans, with the dimensions given in each instance. While the various packaging units used are indicated on the diagrams, one must assume the interconnecting systems of belts or conveyors by means of which the packages are moved from one unit to another. Many of these are supplied integral with the different machines, while in other instances—especially where there is considerable travel between units—these conveyors are of special construction.

In the placing of equipment, account must also be taken of the availability of the product to be packaged, as well as the supply of the materials used in the packaging work, so that at all times there will be no delay in order that efficient production may be maintained to the full capacity of the packaging line. Similarly, too, is the consideration of subsequent operations, such as casing and packing of the packages for shipment.

DRY PRODUCTS PACKAGING

BY A. R. KEENE

THE VARIOUS TYPES of containers used in modern packaging work are familiar to most manufacturers of packaged products. Regardless of the relative merits of all types it is vitally important that the one you select be constructed carefully. It is essential to choose a design which is attractive and appealing, but it is just as necessary to be certain your package is made to handle efficiently on automatic equipment. Even though your present output can be well taken care of by hand or semi-automatic methods, it won't cost you any more to adopt a container that lends itself to automatic methods. Get started right and you'll be that much further ahead when increasing sales demand maximum output.



Forming machines for making plain or unprinted cartons. Machines take paper from roll; cut, score, glue the lap, fold and deliver the cartons in knock-down form at speeds up to 200 per minute. Courtesy, J. L. Ferguson Company

Avoid tricky and complicated packages and don't let anyone tell you that unusual shapes and sizes can always be handled without difficulty. Perhaps they can, but your machine builder should be consulted for a final check. Really, packaging equipment builders aren't as hard boiled on this point as some folks might have you believe. When asked to handle unusual jobs it is surprising to see what a good machine builder can do providing it is a practical idea you ask them to help in working out.

It is impossible, in this article, to hope to cover the thousand and one points which are important in designing containers to insure packaging efficiency. We will mention a few in the following discussion but you should ask the container maker and machine builder to cooperate with you on your package jobs.

There is one packaging machine function which remains basically the same regardless of container type, namely filling and weighing. By "the same" we mean that any of the following four methods might be used whether the package is a bag, can, jar, carton or canister. We will list the four systems and discuss each one very briefly:

(a) Accurate filling.
(b) Gross weight weighing
(c) A combination of (a) and (b)
(d) Net weight weighing

Before considering each of these four basic methods it perhaps will be wise to mention some of the standards, set up by the Department of Commerce, relating to weights and measures. It is an almost invariable rule that a food products package shall be plainly and conspicuously marked with the quantity of the contents in the terms of weight, measure or numerical count on the outside of the container. Certain tolerances and

Flexible combination of hand-fed bottom and top sealer and straight line weigher for small production. Handles different carton sizes and products. One operator can turn out 10 to 18 per minute. Courtesy, Pneumatic Scale Corporation, Ltd.

variations from the quantity of the contents marked on the package are allowed.

(1) Discrepancies due exclusively to errors in weighing, measuring or counting which occur in packing conducted in compliance with good commercial practice. (2) Discrepancies in weight or measure due exclusively to difference in atmospheric conditions in various places, and which unavoidably result from the ordinary and customary exposure of the packages to evaporation or to the absorbtion of water. Discrepancies in the first

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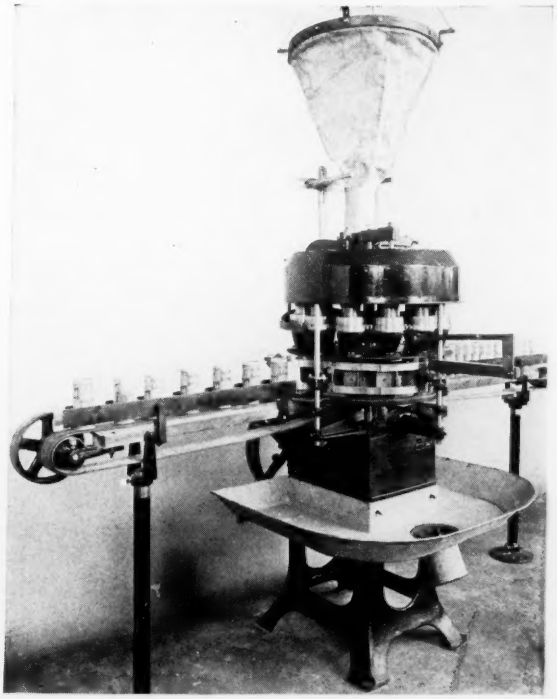
case mentioned shall be as often above as below the marked quantity. The reasonableness of discrepancies under the second class will be determined on the facts in each case.

A package containing ½ avoirdupois ounces of food, or less, is "small" and shall be exempt from marking in terms of weight. The term "small" in the foregoing sentence should not be confused with the use of the same word in the following discussion of methods of filling and weighing packages. It is difficult to determine where the line should be drawn in terming a package small or large or medium, as applied to the general packaging field, and therefore we will leave this particular question to the reader's good judgment wherever the word "small" appears in our discussion.



Automatic unit for filling powder products into round or rectangular canisters. Courtesy, Pneumatic Scale Corporation, Ltd.

Accurate filling is not the most common principle but probably is the simplest. With this method correct quantities of certain products can be measured mechanically without using a weighing device. One way of accomplishing this is to measure by volume, and the other by means of a definitely timed or regulated feeding of the material. Good commercial accuracies can be guaranteed with correctly built machines of this type as long as the bulk of the material remains uniform. If, however, the nature of your product is such that it varies in weight per unit of volume, then measuring won't be entirely satisfactory, if accuracy is a necessary requirement of your production.

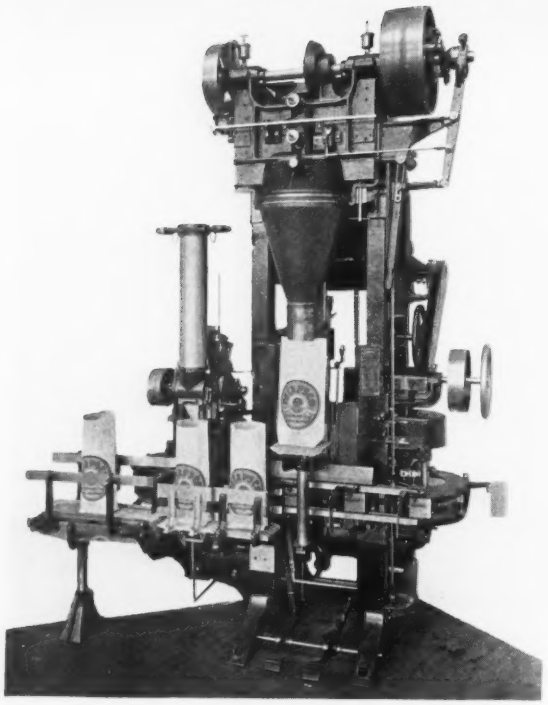
Remember, too, that if your package must be marked with the weight of its contents, then it is important to be sure that any filling method you adopt does give uniformly accurate weights. One more general rule is that measuring is advised only for the comparatively small sized packages. It isn't correct to definitely say that one certain method of filling or weighing is correct for all cases. There are too many varying factors to be considered to allow making such a statement.

Unit for filling various containers with powdered or granular products, 15 to 20 per minute. Courtesy, Stokes & Smith Co.

We can however mention a few typical cases where accurate filling is successful, and these actual examples may help: Scouring powder in canisters, jelly crystals and dessert powder in small cartons, tooth powder in cans, face powder in paper boxes, cut tea in tea balls, granular salts in bottles. Speeds ranging all the way from 10 per minute up to 65 per minute are entirely practical with one of the many units available.

Gross weight weighing is next on our list and here,

Unit type scale in combination with rotary filler (fibre can filling). Courtesy, Consolidated Packaging Machinery Corp.



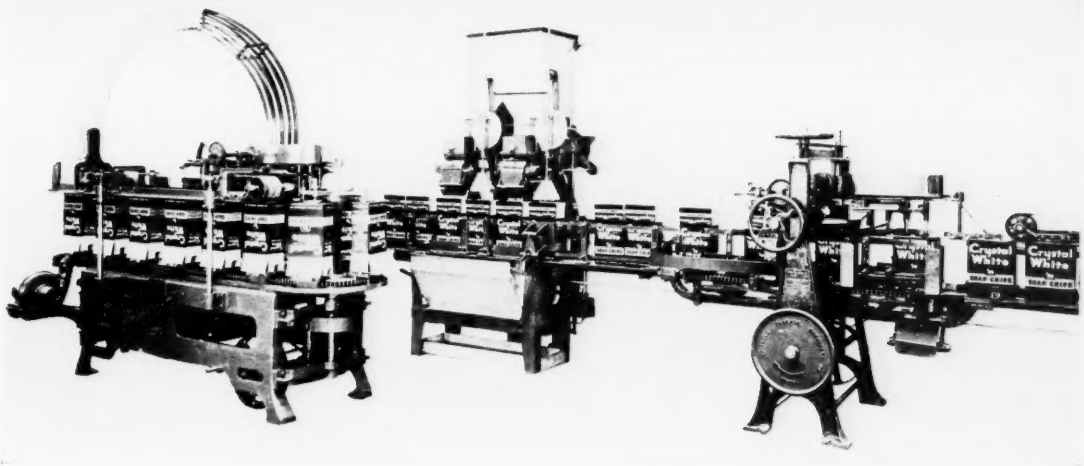
Packing and weighing unit for flour in sacks. Speeds range from 8 to 30 per minute. Machine automatically transfers bag to accurate weighing station and then to tieing or sewing unit. Courtesy, Pneumatic Scale Corporation, Ltd.

as the name implies, both the package and its contents are weighed, not just the product alone. You will realize, therefore, that any variation in weight of the package may affect the weight of the contents. Usually, however, this is not a serious variation with most types of containers. The flow of material from feed hopper to package is controlled by the scale beam on one end of which the package rests during filling. When the right amount of material is weighed into the package the scale beam trips a shut-off which stops the flow of material instantly and indexes the package ahead to the next position. Usually gross weight weighing is done on two scale machines with the bulk load ($\frac{2}{3}$ to $\frac{7}{8}$) weighed at the first scale and the final extremely accurate weight delivered by a fine stream at a second scale.

Gross weight weighing is essential when accurate weighing of non-free-flowing commodities is necessary, and especially so if your package is beyond the small size classification. Another group of representative cases will help to show where gross weight weighing finds its place: Powdered sugar in cartons, cocoa in cans or canisters, malted milk products in cans, prepared flour in cartons are a few examples.

A practice sometimes followed is to combine in one machine the two principles of gross weighing and measuring. The clearest explanation of this method can be given by describing one commonly used machine of this type, namely, the bag flour packer. As in any filling or weighing task, the natural objectives are maximum speed and accurate weights. Here there is the additional requirement of a tightly packed bag. The latter factor makes straight gross weighing impractical but by resorting to a worm packer for the machine's first station, the greater part of the bag contents can be packed in tightly at reasonable speed and without weighing. To get weight accuracy it is only necessary to finish off

Typical installation of high-speed units for carton feeding, bottom sealing, weighing and top sealing. Courtesy, Pneumatic Scale Corporation, Ltd.



Complete automatic unit for bottom sealing, folding, drying, upsetting into an upright position, bulk filling, plunging, finished weighing, plunging again and reshaping package, top sealing and drying. Carton holds 5 lbs. of soap flakes and is largest carton handled on packaging machinery of this type. Courtesy, Triangle Package Machinery Company

the filling at one or two subsequent stations by directing a fine stream of flour into the bag while it rests on a platform scale.

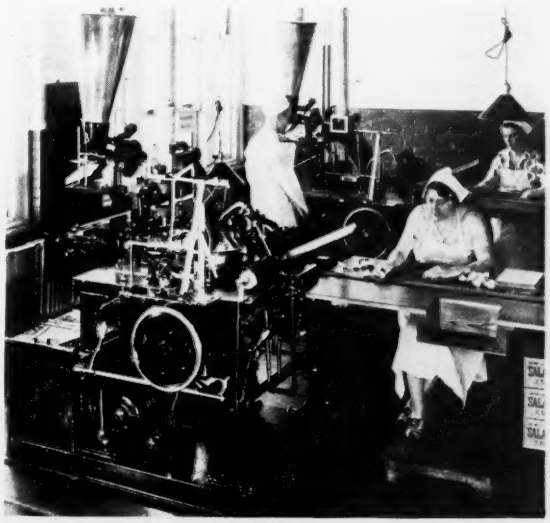
Finally, there is the class of package filling and weighing termed "net weight weighing." With this system the package contents are weighed separately before being transferred to the package. In order to make use of this method the first essential is that your product be either free-flowing or at least semi-free-flowing. Net weight weighing cannot be efficient if the material is at all sticky or tends to build up and cling to feed hopper or funnel surfaces. Where the nature of the product will permit the use of this method it is usually true that the weights will be exertmely accurate. Care should be used in selecting the net weight method as it is not always the most satisfactory, even though accurate weights might be possible.

Again, a group of typical applications will perhaps be helpful. These tasks are being handled successfully by net weight: Coffee in cans, bags or cartons, salt in cartons or bags, tea in canisters or cartons, rolled oats in round or rectangular packages, etc. In this brief outline we cannot hope to cover the exact applications of all machine types but you can feel free to call on the reputable machine builder for more detailed advice.

All of the foregoing discussion deals mainly with dry product filling and weighing, but of course there are other equally important tasks which deserve brief mention in order to complete the picture of packaging methods in general.

Be sure that your package, whether a carton or some other type, is made sufficiently large to permit rapid machine filling or weighing of the required volume of material. At the same time make certain that it isn't too large. You don't want your consumer to receive a package that seems to be half empty. If your package is a folding carton ask your machine builder to check it for correct machine handling construction. Proper scoring, right weight cardboard, corect shape, strong side seam at right location, are only a few points to keep in mind. The folding carton is one of the most widely accepted types and at the same time the equipment available for making it up in various forms is offered in a most complete range of sizes, types and capacities for every manufacturer's needs.

The company whose requirements are not large can install an inexpensive hook-up which will help to lower



Automatic tea ball making and filling machines. Courtesy of the Pneumatic Scale Corporation, Ltd.

packaging costs. As need demands more production, this first installation can be replaced piece-meal by more automatic and faster units. Thus an output as low as 5,000 per day will justify packaging equipment of some description.

With folding cartons there are certain basic operations to consider. For some carton packages all will be

needed, while for others only part of these are necessary:

(1) Carton feeding and forming
(2) Bottom sealing
(3) Lining
(4) Filling or weighing
(5) Carton closing
(6) Wrapping

The usual practice is to handle each of these tasks on an individual unit but in some cases it is practical to take care of several on a combination machine.

The photographs reproduced in this article will illustrate a few typical machine installations and show how a complete packaging job might be handled with only one machine, or on the other hand require as many as six units in the hook-up.

The correct planning of packaging equipment installations is an important matter. Another section of the PACKAGING CATALOG gives some recommendations and shows practical layouts. For maximum efficiency in your packaging room consult with packaging engineers who have worked out many of these installations. Doing so doesn't obligate you and some worthwhile suggestions are most certain to develop.

Wonderful strides have been made in the improvement of packaging machinery during the past few years. You may be operating equipment that is giving excellent results but the chances are that if it is even ten years old it is not the most efficient available.

In the face of today's small profit market your primary aim must be towards lower cost per container. In the vast majority of cases this can be accomplished without sacrificing on your package quality or its sales value. All of the leaders in the fields of packaging materials, packaging service, package design and packaging machinery are awake to these new market conditions. Ask them to work with you.

BOTTLE FILLING EQUIPMENT AND METHODS

BY E. E. FINCH

IT IS not necessary to discuss in detail bottling equipments that were popular twenty-five years ago or twenty years ago. It is true that there are certain methods, truly hand-operated methods that were popular in those bygone days that are still in use or operation. One of the interesting and startling conditions exists today in the thoughts of those who are contemplating the re-entering of the whiskey business along the line of bottling. Early in the fall of '33, the distiller who was contemplating re-entering the whiskey business and bottling of that product, pictured to himself an equipment similar to what he used in 1910, or '14 or '16. He visualized generally a production of 200 or 300 cases a day in a bottling plant. He anticipated the use of corks in bottles and the same method of cleaning and filling and labeling the bottles as he had always done in days gone by. One important thing that he failed to consider was that the use of corks in whiskey bottles was a thing of the past. The patented caps and the standard modern screw caps take the place of straight corks and shell corks that we used to know in the old days. The distiller who had thought that he would produce 300 to 500 cases a day, found that it was advisable to consider a much larger production unit, or units, and it is not unusual now for a distilling plant to consider a production of 10,000 to 20,000 cases per day.

All of this means that even in this modern day, we are presented with new problems to solve, in an effort to use those machines that have proved themselves to be standard and practical in the past few years and make them adaptable to these new containers or operating conditions. A few years ago it was reasonable to assume that in the filling of liquids into bottles it was entirely practical to consider that there were three methods of accomplishing this result; namely, the syphon method of filling, the pressure method of filling, and the vacuum method of filling.

We believe that the syphon method of filling is strictly a thing of the past and we do not think that anything is gained by discussing this method in the present day and age of high-speed production requirements. The pressure method, and particularly the vacuum method, we believe, can and should be discussed and we will endeavor to briefly cover various points in relation to these types of machines as applied to their operations.

Direct Pressure Method

The direct pressure is perhaps the simplest method of filling but it has certain objections. If a bottle is chipped or cracked around the mouth or is imperfect in any way the liquid continues to flow into the bottle and through the bottle on to the machine or on the floor. If a piece of the bottle breaks in filling hot products, as sometimes occurs, the liquid flows through that aperture until the filling head is raised.

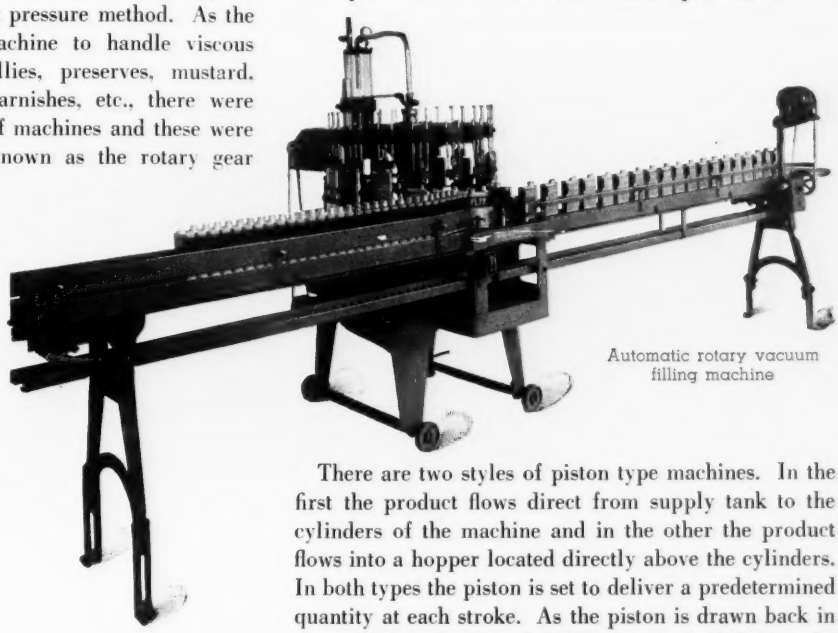
There were also developed some automatic rotary machines of the direct pressure type that were highly efficient and quite wonderful when considered from a viewpoint of the day. Some of these machines are still

in operation and are rendering effective service.

Along about 1914, with the increase in the merchandising of small packages, there arose a necessity for a filling machine to fill not only bottles but also glass jars and tin cans of various types. There were products of a viscous nature that could not be handled by a syhon method or even by the direct pressure method. As the demand increased for a machine to handle viscous products such as jams, jellies, preserves, mustard, syrups, ointments, paints, varnishes, etc., there were developed measuring types of machines and these were of two general types and known as the rotary gear type and the piston type.

In the rotary gear type a special spiral gear pump was invented that in operation on the filling machine measured an exact quantity into the container, as it was automatically carried around the filling head. Changing of gears changes the speed of the pump according to the quantity desired and the speed at which the machine is operated in the average plant under ordinary conditions.

The machine is also equipped with a friction drive for the finer accuracies desired for measuring an exact quantity into a container, and has been developed to a point where it measures to the fraction of an ounce, giving the accuracy desired in filling small as well as large containers. It is today used for filling all viscous and semi-viscous products such as paints, oils, creams, ointments, mustard, etc., although some improvements and developments have been made; and where originally a speed of 40 a minute was considered ample, new machines now operate at a speed of from 90 to 140 containers per minute.



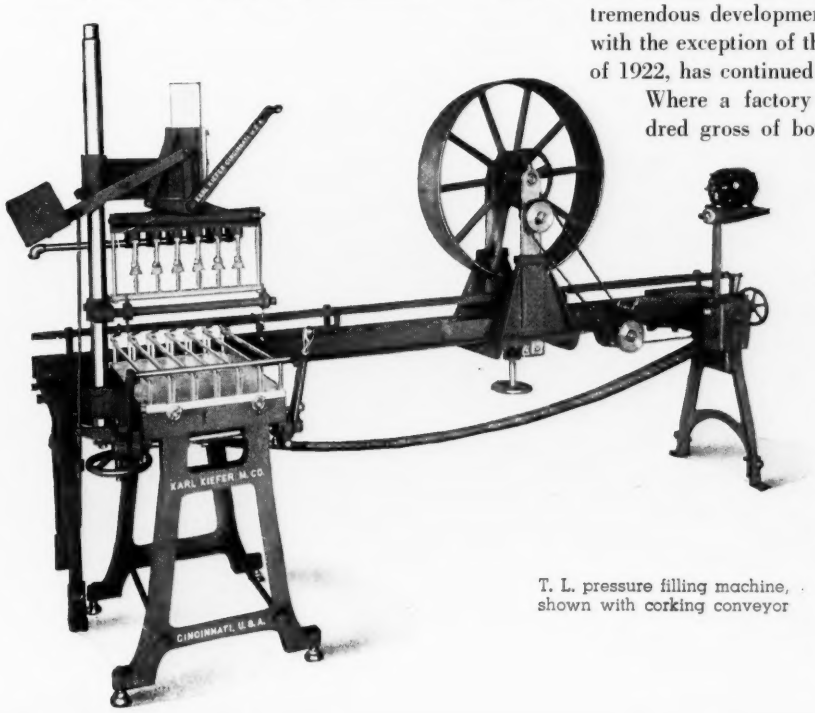
Automatic rotary vacuum filling machine

There are two styles of piston type machines. In the first the product flows direct from supply tank to the cylinders of the machine and in the other the product flows into a hopper located directly above the cylinders. In both types the piston is set to deliver a predetermined quantity at each stroke. As the piston is drawn back in the cylinder, the liquid follows or is sucked into the cylinder and then on the reverse stroke is forced out of the cylinder through filling nozzles into the container. These machines are made in various sizes with production possibilities of from 25 to 100 containers per minute.

While the increase in the distribution of liquid products in bottles was considerable from 1910 to 1918, the tremendous development really began about 1918, and with the exception of the slight slump in 1921 and part of 1922, has continued to grow to a surprising degree.

Where a factory had a production of one hundred gross of bottles a day in 1918, which was considered something out of the ordinary, today hundreds of factories do as much and a great number of factories each produce several hundred gross per operating day.

Naturally with this tremendous increase in bottled goods of all sorts there developed an increase in sizes and types of bottles. Peculiarly shaped bottles, very small bottles were, and to some extent still are, difficult to manufacture with a guarantee to perfection. Attempting to fill such bottles at a high rate of speed and a percentage imperfect meant tremendous loss in production as well as in the product itself



T. L. pressure filling machine, shown with corking conveyor

and the extra labor entailed because of this operation.

The old type of pressure machine would not do and thus there came into existence the vacuum type of filling machine. Originally this was a simple device, which consisted of a hand arrangement that filled one, possibly two, bottles at a time.

It was at once obvious that in the filling of small bottles such as those for perfumes, extracts and similar

18-Stem hand rotary filling machine

products where the percentage of bottle imperfection was very large, the vacuum method of filling eliminated entirely the loss of liquid because it would not fill an imperfect bottle. Machinery manufacturers were not slow to see these advantages and various types of machines have been developed.

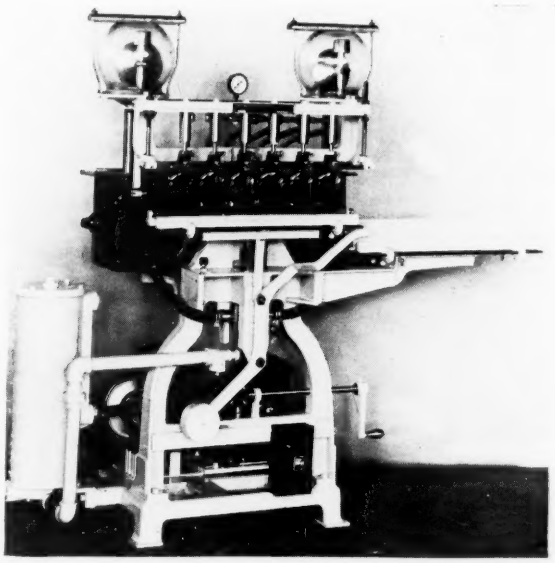
Today there is still the simple single stem and double stem hand vacuum filler, the small semi-automatic straight line machines, the tray type machines, the large automatic rotary type machines and the automatic straight line machines.

In the direct pressure machine the supply tank was above the filling machine and the product flowed by gravity from this tank through the head and thence through the stems of the machines into the bottles. As the liquid flowed in, it forced the air out ahead of the liquid.

In the vacuum machine the product comes from the manufacturer's supply tank into a small supply tank on the filling machine, located below the filling head or stems. The vacuum produced in the bottle first draws the air out and thus the vacuum established in the bottle draws the liquid from the small supply tank.

Operation of Vacuum Machine

The vacuum machine is extremely simple in its method of operation. The stems are connected by such methods as the various manufacturers of these machines may employ to the small supply tank on the machine. The stem is really a multiple stem, having two openings. Located on the stem is a rubber seal which may be adjustable, and the lower end of the stem enters the bottle to the height at which it is to be filled. At that point the mouth of the bottle is resting firmly against the rubber seal on the stem. Immediately the mouth of the bottle comes in firm contact with the rubber seal, the vacuum, which is produced by either individual vacuum pumps or a general vacuum system in the plant, draws the air out of the bottles through the smaller of the two openings in the stems. When that occurs the liquid naturally follows through the other opening or filling line, fills the bottle up to the air outlet and if the bottle remains in contact with the seal the excess liquid overflows through the air or vacuum line into a vacuum bowl and by means of an ingenious device is automatically returned to the supply tank on the machine. If all connections are tight, if both the air line and the filling line are clean and free, then all perfect bottles will be filled without any difficulty.



Vacuum filler. Courtesy, Pneumatic Scale Corporation, Ltd.

On straight line automatic machines the bottles are carried forward on a conveyor and automatically transferred from the conveyor to a platform which raises the bottles up to the filling head. After being filled the bottles are again automatically placed back on the conveyor. Only partial vacuum is necessary to fill the bottles. In handling heavy products at high speed, vacuum up to 18 in. to 20 in. may be used, but the average liquid filled in the average bottle requires only from 3 in. to 7 in. of vacuum. To give a more specific illus-

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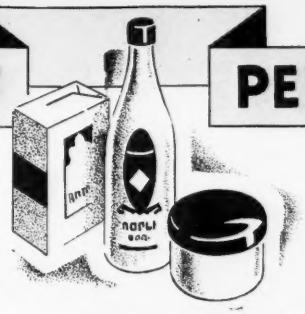

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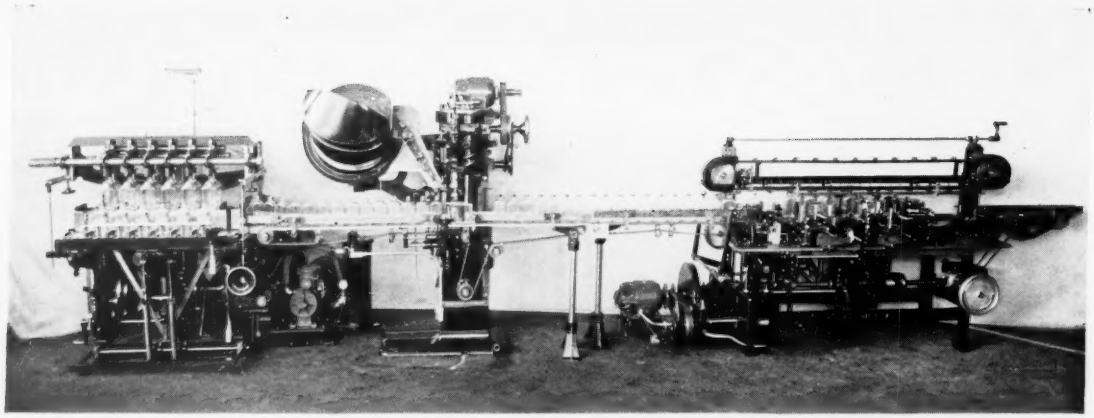

Automatic vacuum cleaner and filler, single-head capper and labeller. Courtesy, Pneumatic Scale Corporation, Ltd.

tration, on some of the larger automatic rotary machines filling a product such as catsup at 100 pint bottles per minute requires not more than 8 in. of vacuum.

The advantages of the vacuum method of filling are so varied and so great that this type of machine has almost entirely superseded the older types such as syphon and pressure machines.

The accurate measure type, in which the liquid is first measured in measuring cups and then dispensed into the container, is especially well adapted to the filling of products that are of an expensive nature such as essential oils, etc., where an accuracy of quantity is more desirable than a uniform filling height in all of the containers filled. The cup measuring type can be graduated down to a very close margin, as differentiated from the piston type which cannot be classed as an absolute accurate measure for it will fluctuate slightly.

There is another type of accurate measure filler and that is the electrically operated cut-off type or weighing type which is used to some extent in the oil refineries.

The machinery manufacturers have developed various machines that will suit the requirements of almost every bottler. The machines range from the smallest or hand-operated units, with a capacity of 10 to 20 bottles per minute, up to 30 to 50 a minute with a semi-automatic, and from 75 to 150 with full automatic machines.

TURN-ON CLOSURES FOR BOTTLES, JARS AND CANS

BY A. R. KEENE

So ACCUSTOMED have we become to the magic performed by modern machinery that most of us are "push button" minded. Machines are built to imitate human hands. However, it is undoubtedly true that odd-shaped containers and caps can be more efficiently assembled manually. Automatic machines can accomplish some very remarkable feats, but they cannot perform satisfactorily unless given the correct material to work with. For best results on automatic capping machines, a container must be chosen, which has regularity of contour and reasonable stability—the closure must be rugged enough to permit bulk sorting and feeding and also provide sufficient gripping surface for mechanical fingers.

If you, as a packer, will follow this general rule, your capping will be accomplished infinitely faster and with more dependably uniform results. Those who must have the ultra modernistic in design must be prepared to sacrifice output and increase hand labor. Fortunately, it isn't necessary to adopt out-of-the ordinary types as there are plenty of attractive stock designs in containers and closures which do lend themselves to rapid automatic handling.

Closures—insignificant as they may seem to many users—are one of the most carefully designed parts of the whole package assembly. Every wise manufacturer knows that if the closure fails, his product becomes unsaleable; that his chances for repeat sales are considerably lessened. Because this is true it isn't enough that a closure be good-looking, it must also be an efficient seal for the container when first packed.

There are many types of efficient seals for glass and tin containers—too many to cover in this brief discussion. Suffice it to say that all closures are made up of two principal components: a metal or molded outer

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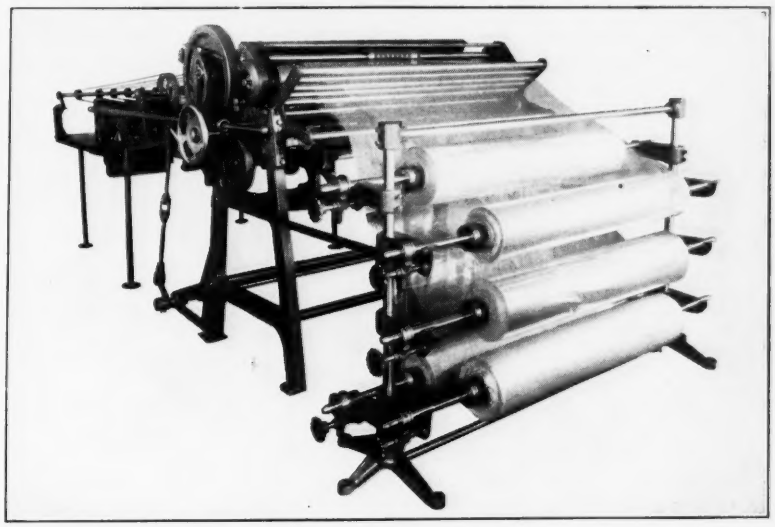

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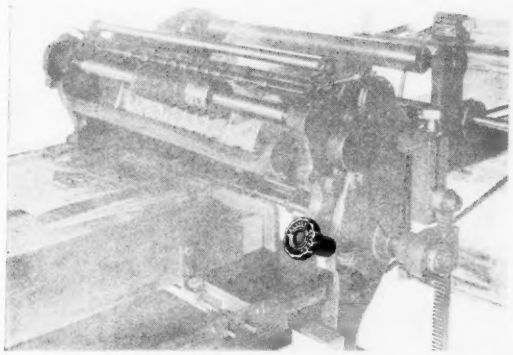

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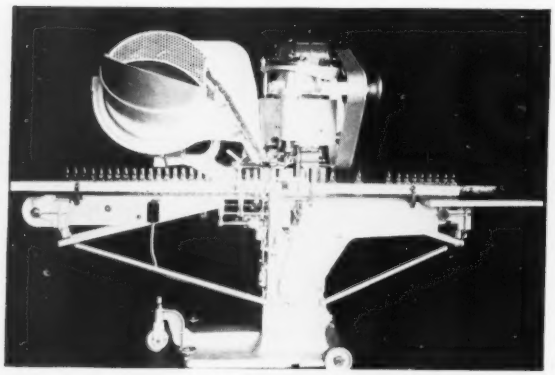
shell and an inner liner. One is useless without the other and both must be correctly joined so that they cannot separate during sorting, feeding and tightening.

Vacuum seals, crown caps, special two-piece caps with a removable band, glass covers, friction plugs, and turn-on caps are a few of the many distinct types which we see in common use. For brevity's sake this discussion is confined to the one group of closures which is perhaps the most widely used for closing both tin and glass containers, namely the simple turn-on cap.



Single head capper. Courtesy, Pneumatic Scale Corp., Ltd.

Turn-on closures, so described for the obvious reason that a seal is effected by turning the cap onto the container by hand or machine, can be separated into two groups. First, those made of metal and second, the type made of molded material. The latter style is comparatively new but during its short period of general acceptance marked improvements have been made in its efficiency as a seal, its attractive appearance and its increased strength.

Molded caps, properly made, can be automatically sorted, fed, and applied with great efficiency. Incorrectly made, any cap will be a liability, but it is vitally necessary that your molded closures be ruggedly made or breakage will prove to be a very expensive item. While molded caps are always of the continuous thread variety, metal caps are made in a number of thread designs. Two and four lug caps, divided thread types and regular continuous thread construction are used.

In the metal cap group there are single- and double-shell styles as well as knurled and smooth outer surfaces. There are also the one and two piece caps, which combine the turn-on and turn-off feature with an effective vacuum seal.

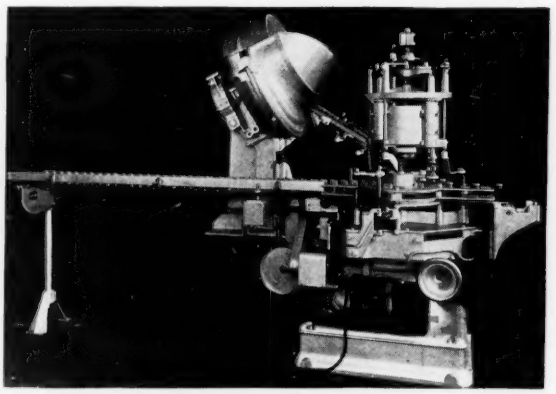
We cannot hope to outline all the various closures in this short article but we do want to emphasize the importance of correct design of all closures to insure efficient machine handling. Before you finally decide to adopt any one cap, ask your machine builder if both the container and the closure are designed for machine capping. Capping equipment ranges all the way from inexpensive tightening tools to hi-speed automatics capable of speeds exceeding 100 per minute.

The manufacturer whose needs cannot be taken care of by straight hand capping and yet cannot justify the cost of a fully automatic machine, may make use of a cap tightener. Such a unit does nothing more than seat the cap after it has been spotted on the container by hand. The usual tightening device consists of a revolving chuck, made to fit the cap, and driven by an electric motor through a flexible shaft and friction clutch. The latter can be adjusted to vary the cap tightness. These tightening units can be set up alongside of a conveyor and the caps tightened as the containers are carried along by the belt or chain.

The next step for the manufacturer whose needs cannot be handled economically with a cap tightener is a fully automatic single head capper. With a unit of this type the task of spotting caps, by hand, is done away with. An automatic capping machine would be equipped with a cap feed hopper. Your caps are dumped into this hopper, which sorts and feeds the caps to the capping chuck. The capping chuck is driven through an adjustable friction arrangement, which can be varied so your closure will be applied to the container as tight or as loose as you wish.

The single head cappers are normally fitted with automatic intake and delivery conveyors, which correctly time the feed and delivery of the bottle, jar or can to be capped. No operator is required and the machine can be controlled by the girl stationed at the filling machine. The latest machines are fitted with electrical push-button stopping and starting controls, which makes operating a very simple task.

Single head automatic cappers, when correctly designed and built for the job in question, are surprisingly

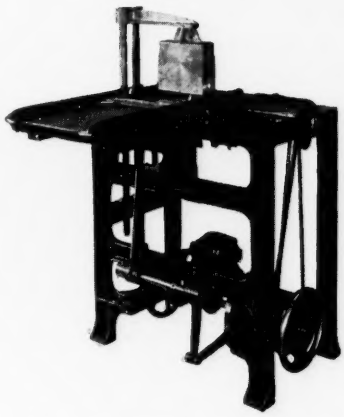


Full automatic Rotary four-head capper. Courtesy, Pneumatic Scale Corporation, Ltd.

flexible. It is not unusual to equip such a unit for eight or ten different containers and a half-dozen cap sizes. Complete changes of both cap and container can be accomplished in ten minutes if the capper is a readily adjustable one planned with this feature in mind. The automatic single head cappers on the market are capable of speeds ranging from 30 to 50 capped containers per minute in normal operation.

USER SAVES $7,000 IN SINGLE YEAR

SMALLER PLANTS CUT COSTS.... IMPROVE OUTPUT WITH PETERS JUNIOR FORMERS AND CLOSERS



PETERS JUNIOR FORMING AND LINING MACHINE

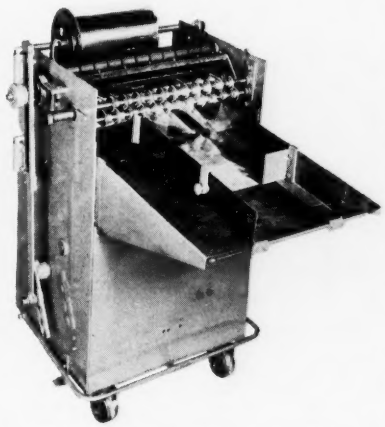
At about one-third the cost of Senior models, Peters twin Junior machines provide the ideal set-up for the smaller plant. The Junior Forming and Lining Machine forms and lines carton shells automatically at a rate of 2000 to 2500 per hour, requiring only one operator. Handles wide range of sizes with ready, speedy adjustment.

Companion Peters Junior Folding and Closing Machine matches production capacity of above. Needs no operator. Real money and space savers for smaller plants or those working on many sizes. Write today for full details.

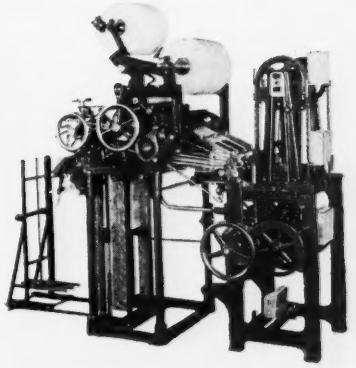
USERS SAVE 17% AND MORE ON CELLULOSE PAPERS

The Peters (Themco) Cellulose Sheeter is the most advanced and economical machine in its field. It makes possible savings of 17% through roll-cellulose purchase. Adds many extra savings by reducing storage, off sizes, damaged sheets, etc.

Rugged, compact Peters (Themco) will cut and stack five to six thousand sheets per hour, requiring no operator or attendant. Easily moved from point to point. Occupies only a few feet of floor space.



PETERS (THEMCO) SHEETER AND STACKER



PETERS SENIOR FORMER WITH AUTOMATIC FEED

Automatically fed Peters Senior Carton Former with Senior Carton Closer. Save 10 to 14 People's Work

Perhaps hard to believe, but absolutely true: In one plant an installation of a Peters Senior Forming and Lining Machine with automatic feed in tandem with a Peters Senior Folding and Closing Machine has produced savings figured at over seven thousand dollars over old methods. And vastly improved the quality of the work, besides!

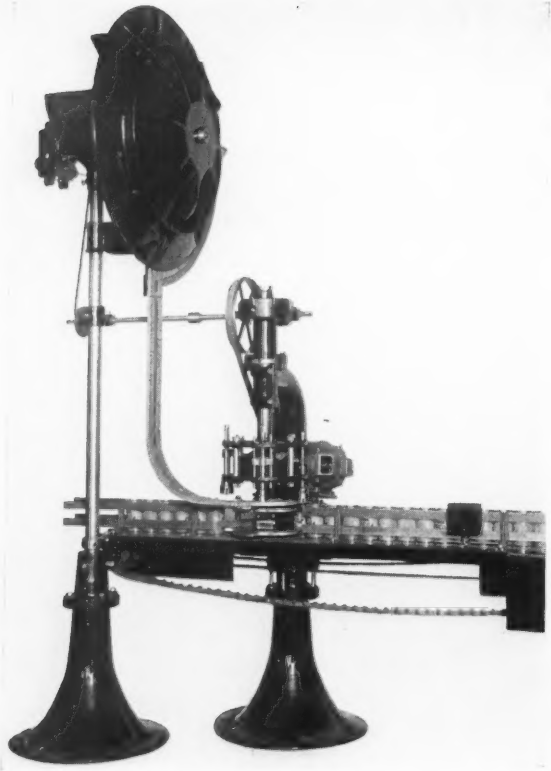
Think of it . . . the labor of 10 to 14 persons released for more productive work. Hundreds of square feet of space saved. Less upkeep required. Faster production, hence less storage and stock room. So efficient are these Peters Senior machines that they can be worked as few as ten hours a week and still produce pronounced savings over older methods!

Ask the Peters Machinery Company for full information about these remarkable machines. Our engineers will gladly visit your plant, study your problem, make recommendations . . . without obligation on your part. Write today.

PETERS MACHINERY COMPANY

GENERAL OFFICE AND FACTORY 4700 RAVENSWOOD AVE.

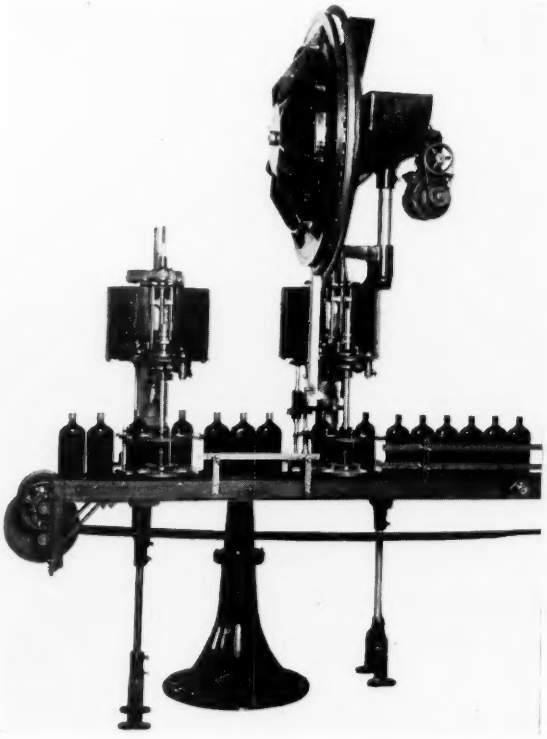
CHICAGO, U.S.A.



Automatic unit for applying plug cover caps (dry material). Courtesy, Consolidated Packaging Machinery Corp.

For those concerns, whose production is more than can be handled by a single head, there are high-speed rotary cappers, usually built in four head models. These machines accomplish the same result as the single head type but at a much higher rate of speed. Sometimes the speed will be as high as 120 per minute, if the container and cap are ideal for such rapid handling. The newer high-speed machines are nearly as flexible as the single head models. One widely used four head capper can be adjusted from one size container and cap to another in about 20 minutes without any trouble.

Capping machine builders in general have kept pace with the increasing use of delicately finished closures by developing the proper mechanisms to assure correct sorting, feeding and applying of such caps, without scratching or marring the finish. Hand capping is not efficient today, when there are so many practical semi-automatic and fully automatic capping devices on the market to fit nearly all conditions and priced in accordance with the amount and quality of the work they can do.



Capping unit for applying tamperproof caps to bottles. Courtesy, Consolidated Packaging Machinery Corporation

AUTOMATIC WRAPPING MACHINES

THERE HAS BEEN further improvement in the adaptability of wrapping machines to many sizes of packages. Practically all machines now made can be readily converted to different types of wrapping. One of the newer developments has been a carton wrapping machine to sell at a moderate price, that can be quickly converted to wrap any size from a pack of playing cards to a box of cigars. Another new one is a machine for wrapping the irregular coated candy bars, which saves a great deal of money for the user. There has been a development in the confectionery industry toward the individual wrapping of the smaller pieces of hard candy that used to be sold in bulk from glass jars on the counter. The high-speed flexible machine for this work is another one of the new developments.

One of the important influences bearing upon improved appearance has been a further development of the process of printing on transparent cellulose. The beautiful effects now obtainable have served to popularize further this form of wrapper, but its increased use has brought new problems to the wrapping machine manufacturer. For mechanical application, this wrapping material must be used in rolls—no satisfactory method has yet been found for feeding it

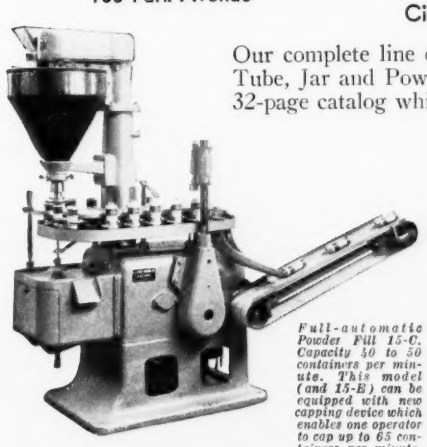
F. J. STOKES MACHINE COMPANY

COLLAPSIBLE-TUBE, JAR AND POWDER FILLING EQUIPMENT

New York Office—
103 Park Avenue

5990 Tabor Road, Olney P. O.
PHILADELPHIA, PA.
Cincinnati Office—230 Wilmuth Ave.

Los Angeles Office—
524 So. Spring Street

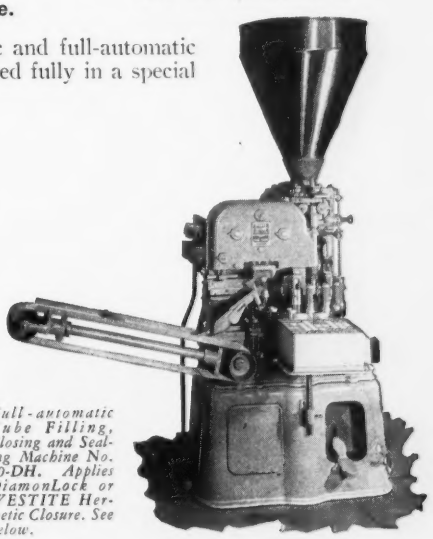


Full-automatic Powder Fill 15-C. Capacity 40 to 50 containers per minute. This model (and 15-E) can be equipped with new capping device which enables one operator to cap up to 65 containers per minute.

Our complete line of hand-operated, semi-automatic and full-automatic Tube, Jar and Powder Filling Equipment is described fully in a special 32-page catalog which will be sent on request.

EQUIPMENT

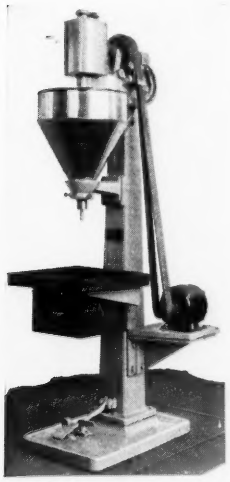
Tube Filling Equipment
Jar and Can Filling Equipment
Powder Filling Equipment
Tablet and Pill Making Machines
Counting and Bottling Machines
Mixers—Kettles
Conveyors
Bottle Washers
Special Filling Machines



Full-automatic Tube Filling, Closing and Sealing Machine No. 90-DH. Applies DiamonLock or WESTITE Hermetic Closure. See below.

Our powder fillers, which will handle practically any powdered or granular product including chemicals, pharmaceutical powders, foods, spices, face and talcum powders, insecticides, dyes, etc., include the following:

14-A Powder Filler—A semi-automatic, general purpose machine. Compact, simple in design and adjustments. Capacity 15 to 45 per minute. **15-B Powder Filler**—Exceptional accuracy and cleanliness is insured by special auger-type filling mechanism, slow-motion agitator and two-step fill. Compactness and simplicity of design save floor space and time in operation. Easily cleaned and quickly "changed over"; especially suited to the manufacturer with a varied line. This machine is ruggedly built and so designed that, as production grows, it does not need to be discarded but can be converted and expanded to a full automatic machine. **15-C Powder Filler**—(Illustrated above)—A full-automatic model for large production and sampling. Can also be used as basic model for short runs or special products. This machine is the 15-B (basic model) converted and expanded by adding certain attachments. **15-E Powder Filler**—Especially suitable for filling small containers such as face powder boxes. Has all the 15-C features (see previous section but operates at high speeds (70 or more per minute). Can be equipped with automatic "take off" for filled containers. Attachments for filling granular materials, for packing and for weighing, as well as many other features, are also available.



No. 14-A Powder Filler. Semi-automatic; capacity 15 to 45 containers per minute.

Both tube and powder fillers are modern in every respect. They are accurate, simple, compact, easy to clean and "change over." The automatic models are equipped with "no container—no discharge" controls and adjustable container carriers circle the machines to conserve space.

Depending on the model (over a dozen models available) and the use of the proper nozzles and hoppers, our tube fillers will handle practically any liquid, semi-liquid or paste, including such products as fish paste, meat extracts, honey and other food products, rubber cement, artists colors, library paste, paint, grease, insecticides, etc., as well as toothpastes, shaving creams and ointments. The hand-operated, semi-automatic and full-automatic tube filling machines can be arranged to apply the patented STOKES DiamonLock Closure (no clip required) or the new WESTITE Hermetic Closure, which has the following advantages:

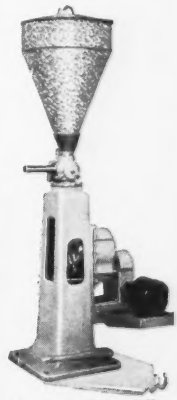
1. Prevents closure seepage and corrosion
2. Saves all clip expense
3. Shorter tubes used
4. Prevents product deterioration
5. Uses simpler mechanism

Send for Catalog 34-F.

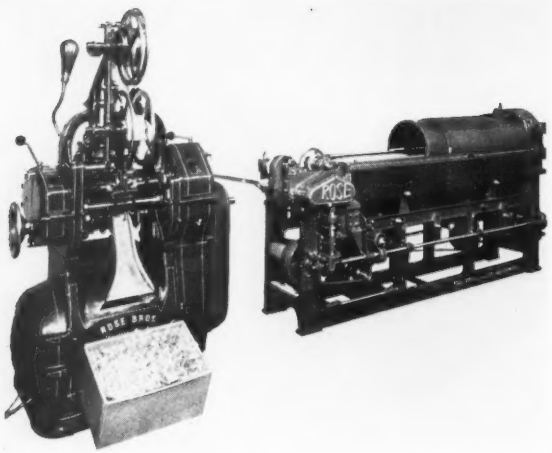
ADVISORY SERVICE

Our 40 years' experience in designing and building filling equipment for collapsible tubes, jars, cans, bottles, boxes and cartons enables us to recommend the most economical and efficient set-up for any product and, if necessary, the proper auxiliary equipment. This advisory service is available upon receipt of information on your production requirements and samples of material and containers. Special filling equipment developed for special products.

Folders and booklets on request.



No. 2-C Tube Filler. Semi-automatic; capacity 20 to 30 per minute.



Automatic batch roller producing and wrapping 850 pieces of toffee or hard candy per minute. Courtesy, Rose Bros., Ltd.

in sheets. The development of the photo-electric cell or "electric-eye" form of control for accurately registering printed transparent cellulose is no longer new, but its spread into new fields has brought demands for high speed and accuracy of registration that have hitherto been impossible with existing mechanisms. When this development was started a number of years ago, it appeared almost like a toy, but there are literally more than a hundred wrapping machines now in constant use, with the photo-electric cell registration gear, wrapping various products.

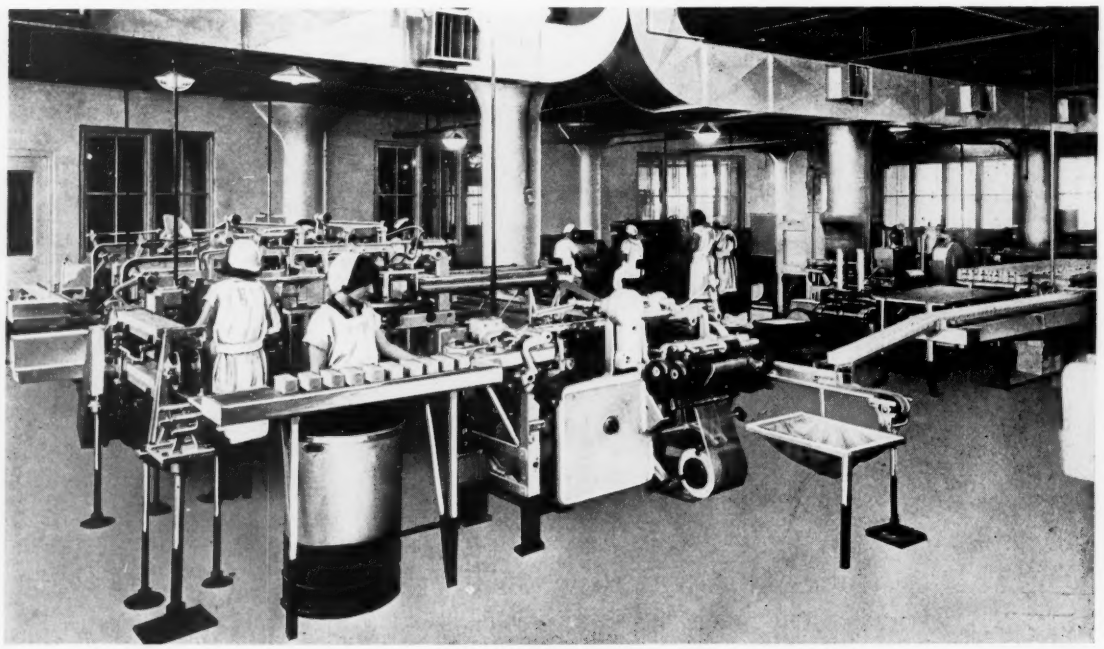
Up until two years ago, the electric eye could be used only on intermittent paper feeds. The application of the eye principle to a continuously moving web of paper has greatly increased the speed of registration and opened up new fields for this proven form of wrapping.

A further refinement in the wrapping of packages has been the development of easy opening devices. A properly sealed transparent cellulose package is sometimes rather difficult to open and various schemes have been devised to make this process easy and without in any way destroying the effectiveness of the wrap. For one chewing gum manufacturer, who is putting a transparent wrapper on the outside of his package, a special device has been made which puts a fold or pleat in the cellulose and cuts the wrapper in such a manner that a tab extends slightly beyond the edge of the package. By pulling this tab, the transparent cellu-

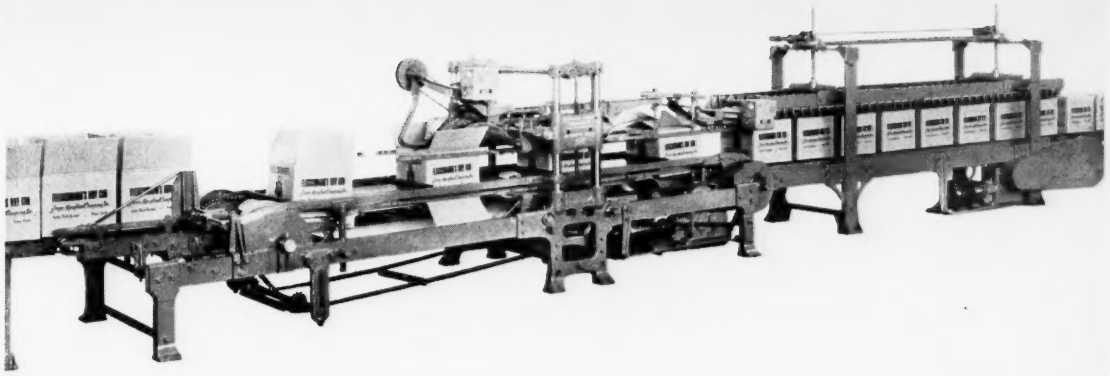
Dozen or half-dozen packages are bundled by machine

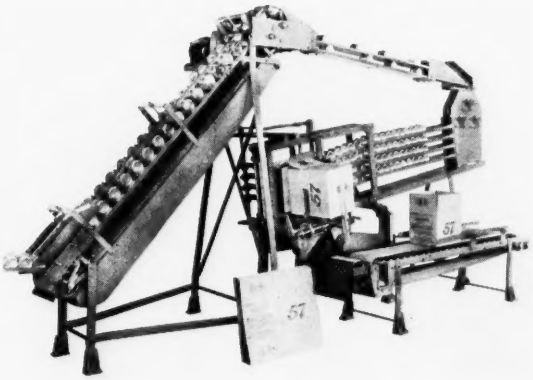
lose tears easily and neatly and the wrapper can be removed without any trouble.

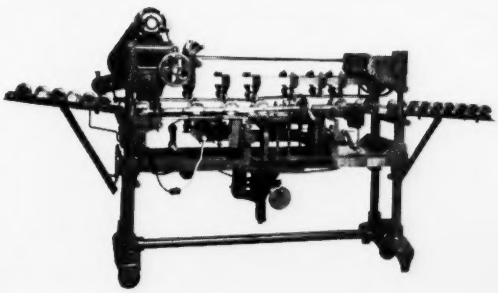
For another chewing gum manufacturer a somewhat more complicated device has been made. A narrow strip of paper tape is placed inside the wrapper but is so arranged that one end is left outside. A pull on this tape tears the end off the outer wrapper so that the



Automatic wrapping and bundling units at a pharmaceutical manufacturing plant. Courtesy, Package Machinery Company







The Standard Gluing and Sealing unit is designed to meet the ever increasing demand for greater flexibility in adjustment and perfection in the sealing of shipping cases.

This can casing unit was developed to handle labeled sanitary cans at high speed without injury to cans or labels. Units of this kind are operating at a speed of 600 to 700 cans per minute.

The new Standard-Knapp heavy duty, high speed can Labeler is a vast improvement on any of the Labelers heretofore offered. Much thought has been given in its design to the elimination of unnecessary parts and to ruggedness of construction.

A comparatively recent offering in the packaging field is the packer for packing square or rectangular packages into solid fibre or corrugated shipping containers. The machine shown is casing 700 cakes of soap per minute with the use of only one operator.

The Standard-Knapp Corp. because of its long experience in the packaging industry and its unsurpassed manufacturing facilities, has successfully developed the several pieces of equipment shown herein. This machinery, together with the other types of equipment which we manufacture, is generally looked upon as the last word in efficiency.

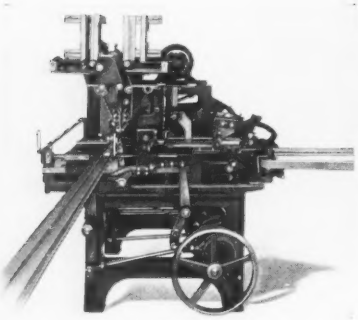
STANDARD-KNAPP CORPORATION

MANUFACTURERS OF CASE SEALING, CASE PACKAGING, AND CAN LABELING MACHINES

43-27 33rd Street, LONG ISLAND CITY, N. Y. | 208 W. Washington Street, CHICAGO | 1001 Society for Sav. Bldg., CLEVELAND | 909 Western Ave., SEATTLE

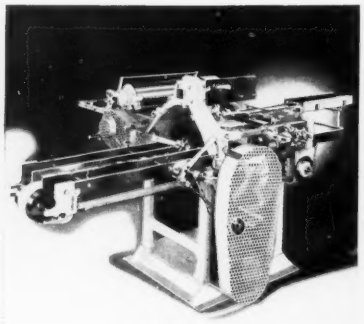
420 S. San Pedro St., LOS ANGELES | 189 Second Street, SAN FRANCISCO | Windsor House, Victoria St., LONDON, ENGLAND

★ PACKAGE MACHINERY



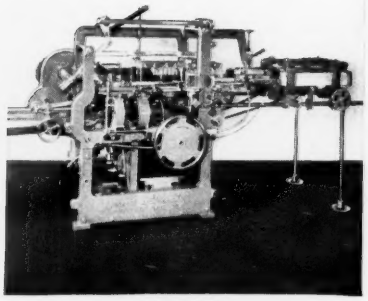
Model S

Toilet Soap Wrapping Machine, used for Lux, Camay, Palmolive and other well-known soaps.



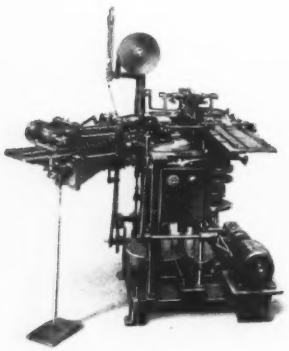
Model FA

A low-priced wrapping machine, adjustable for a wide range of sizes. Handles "Cellophane", Waxed Paper, glassine or printed paper wrappers.



Model F-9

An extremely versatile machine for wrapping cartons in "Cellophane", Waxed Paper, glassine, or printed wrappers. Adjustable for a wide range of sizes.



Model 16

Used by leading cigar manufacturers for enclosing individual cigars in "Cellophane".

For Lower Costs and a Better Package

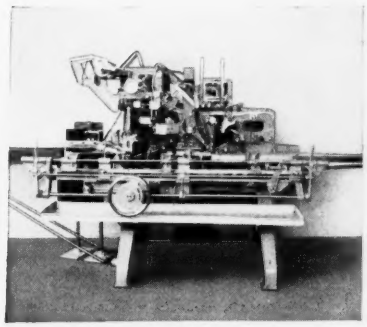
WHETHER your problem is to obtain lower costs, to devise a package for a new product, or to improve your present package, our wide experience and unusual facilities will prove helpful.

The machines illustrated here are but a few of the many in our line. In accord with modern requirements, most of our machines are of flexible construction—that is, adjustable for wrapping more than one size. Based on the character of the product, you may use practically any form of wrapping material: paper, foil, glassine, "Cellophane", etc.—The machine can be adapted to your needs.

Electric-Eye Wrapping—We pioneered in the development of electric-eye wrapping, and today our machines handle not only transparent material with electric-eye registration, but can also be adapted

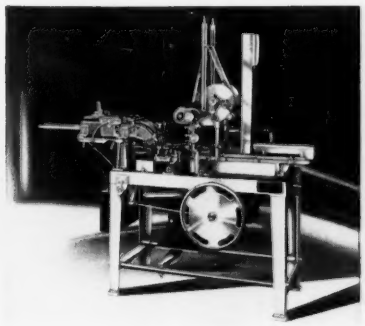
OVER 200 MILLION PACKAGES PER

COMPANY SPRINGFIELD, MASS. ★



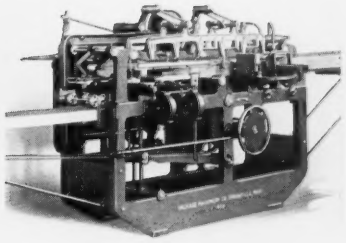
Model CA-2

Hershey's, Nestle's, Baker's and other popular chocolate and candy bars are wrapped on this machine.



Model AA

The machine that wraps Lucky Strike, Camel, Chesterfield, Old Gold Cigarettes, etc. in "Cellophane".



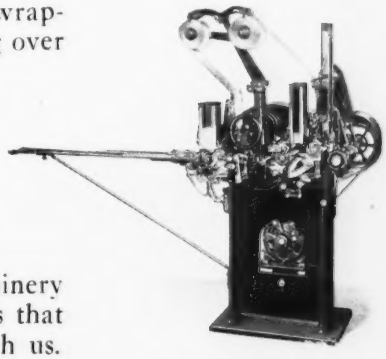
Model F-6

Bundles packages in dozen or half-dozen lots, eliminating the expense of packing in costly cardboard boxes. The machine registers printed panels perfectly. Also attaches printed end-seals.

to the use of printed opaque material as well. Electric-Eye wrapping, using material in roll form, makes a considerable saving over cut-to-size sheets.

Combination bag-making, weighing, and filling machines —used extensively for coffee, rice, barley, tea, sugar, etc. These machines make the bag, single or double, fill it to the correct weight, and seal it. They effect a considerable saving, not only in labor cost, but also on the cost of buying ready-made bags.

A study of your package, your production methods and machinery may enable us to suggest important savings, or improvements that will give your product new sales appeal. Get in touch with us.



Model AC

American Chicle, Beech-Nut and other well-known brands of chewing gum are wrapped on the AC. Wraps and bands each stick and encloses five sticks in the outer wrapper.

PACKAGE MACHINERY COMPANY, SPRINGFIELD, MASSACHUSETTS

NEW YORK	CHICAGO	CLEVELAND	LOS ANGELES

Peterborough, England
Baker-Perkins, Ltd.

Mexico, D. F.
Apartado 2303

Melbourne, Australia
Baker Perkins, Pty., Ltd.

DAY ARE WRAPPED ON OUR MACHINES

individual sticks can be removed. This same manufacturer is using an outer wrapper of printed transparent cellulose which closely resembles his former printed wrapper and this is in addition to a piece of reinforced foil that is first placed around the five sticks. A small hole is punched both in the foil and the transparent wrapper to accommodate the end of the tape but these holes are so placed that they come at the overlap of these wrappers and do not destroy the effectiveness of the airtight seal.

In the field of adjustable wrapping machines still further advances have been made. The feature of adjustability has probably been brought to its furthest state of advancement in bread wrapping machinery where changes in sizes can now be made rapidly and without the use of extra parts. A machine recently developed primarily for the wrapping of bread has been adapted for cartons, particularly the large sizes used by the biscuit manufacturers, and the ease with which this machine can be changed for different sizes is far beyond anything so far developed in this direction.

New packing machines installed by the large cigarette companies have required higher speed in transparent cellulose wrapping. A new machine has been developed to run at 150 packages per minute, thus synchronizing with the speed of the new packers.

While it cannot, strictly speaking, be called a wrapping operation, a new means for sealing the tops of milk bottles in transparent cellulose has been perfected. By means of this development transparent cellulose is unwound from a roll, cut into a square sheet and drawn tightly over the neck of the bottle and then held in place by means of a waterproof paper tape. This has made available a new merchandising idea for the milk industry and a number of successful installations have been made at various dairies.

Minor changes and improvements are constantly being made in existing wrapping machines as they must keep pace with increased speed of production and the demand for better packages.

WEIGHING, PACKING, FOLDING, SEALING PAPER BAGS

AUTOMATIC EQUIPMENT for the efficient closing of stiff containers, which has been available for many years, made it almost imperative for the large producer of packaged goods to seek some form of stiff container, either can or carton, for volume packaging. Although the cost of these containers was considerably higher than paper bags, the saving in production cost more than equalized the packaging overhead, and in most cases the bag remained the unit for only the small producer.

Fully automatic sealer in operation, sealing one-pound coffee bags. Courtesy, Consolidated Packaging Machinery Corp.

However, the increased demand for merchandising economies, and an attractive but less expensive container, drew many a production manager's attention to the multicolor lined paper bag. It was at this time that automatic bag closing machines made their appearance, and thus provided for the first time a machine that would, when operated in conjunction with an automatic net weigher, pack, fold, and seal with a strip of gum tape, bags ranging in weight from ½ lb. to 1½ lb. The steps in packaging are as follows:

The exact weight drops from the automatic net weigher into the bag, which is held in place by one operator, who then places the bag on a traveling belt that passes between two vertical belts into the packer, where the material is firmly packed to assure a solid package, and then delivers the bag into the folding and sealing unit proper. Here the bag is tucked, a triple fold applied to the top of the bag and, as this fold is pressed firmly in place, paper tape is cut, moistened and pressed firmly on the top and down the two sides. The seal obtained is practically air-tight, and is the strongest part of the finished package. The dust-proof seal effected is square at the top, and thus permits easy and convenient packing into shipping containers. Standard bags as produced by bag manufacturing companies can be used, and the uniformity with which the bags are automatically packed, folded and sealed assures a continuous production of packages, pleasing to the eye, highly practical and, at the same time, conveying an air of stability formerly associated only with containers other than bags. With one operator to feed the bags to the weigher and

—at Your Service 39 Years Experience

OUR job is lifting packaging worries from the shoulders of production executives. For thirty-nine years (since 1897) we have designed machinery to carton, wrap, package and seal hundreds of the country's best known products with well-nigh miraculous speed and economy. Sometimes an improved package with greater sales appeal has been made practical only because of these Redingtons. Often a package has presented extraordinary production handicaps only to meet its match in Redington's experience and ingenuity. Almost always Redington Packaging Machines have paid for themselves many times over in lower labor and operating costs.

The products pictured here are typical, each requiring a particular type of machine. Look for the one closely resembling *your* package. Better still, send us a sample of your product and some details of your special problem. Our Engineering staff will advise you gladly—with no obligation whatsoever.

F. B. REDINGTON CO. (Est. 1897)
108 So. Sangamon St. Chicago, Ill.

REDINGTON Packaging Machines

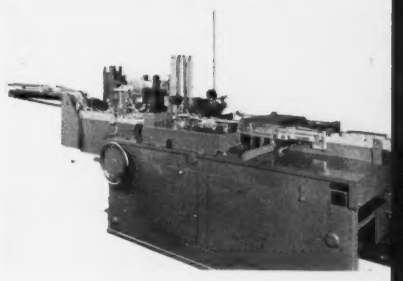
CARTONER—The most complete and perfect yet. Handles anything sold in glued or tuck-end cartons—bottles, jars, collapsible tubes, etc. Smooth, quiet, easily accessible, capable of about any practical speed. Loads the contents into the cartons continuously at about one-fifth the machine's operating speed.

CELLOPHANE WRAPPER—products wrapped automatically at high speed in plain or printed cellophane, wax or glassine paper. Means for applying "Easy Opening" Strip available. Also photo electric cell controlled registering means for applying printed design. Compact, complete, built for many years of top efficiency.

CARTON SEALER—adjustable between wide limits for sealing solid or semi-solid products in glued-end cartons. A fast, inexpensive machine that will effect important savings.

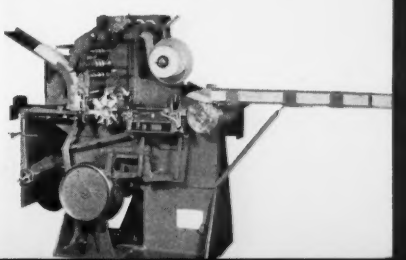
ENVELOPE FILLER—Such well-known professional and sample envelopes as Grove's Laxative Bromo Quinine and Bayer's Aspirin filled at rate of one hundred per minute.

SPECIAL PACKAGING MACHINES—for producing unusual packages economically, among them Listerine and Phillip's Milk of Magnesia.



ABOVE—New Continuous Loading Cartoning Machine

BELOW—New High Speed Cellophane Wrapping Machine



Truly—
"If It's Packaging—Try Redington First"

another to place the filled bags in the shipping containers, two operators can easily and continuously turn out up to thirty packages per minute.

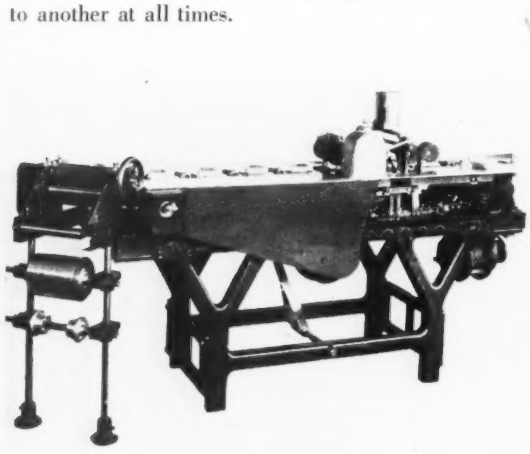
Less than ½ hp. is required for operating the entire bag packaging unit. Flexibility of operation is another valuable feature, and permits the closing of bags ranging in weight from 8-oz. up to 2½ lbs. The machine is so constructed that the adjustment from one size bag to another can be made in only a few minutes' time. The space needed is approximately 12 ft. long by 20 in. wide.

The foregoing describes the method followed in the sealing of the bags with gummed paper tape. For applying other types of closures the procedure differs, although essentially the steps up to that point are the same.

SEMI-AUTOMATIC PACKAGING MACHINERY

SEMI-AUTOMATIC MACHINES are quite extensively used for performing varied operations in packaging departments, such as weighing, filling, measuring, carton sealing, wrapping, etc. Among users may be listed the following: New concerns starting with limited capital; established firms, medium or large, introducing new items with limited production needs; firms having low labor unit costs (certain sections in the South); concerns needing inexpensive equipment for peak productions in their packaging operations.

Where several sizes of packages and different amounts of materials must be handled in small containers, whether their containers be cartons, cans, bags, bottles, jars or envelopes, flexible machinery is usually desired. For a machine to be flexible, it must be simple in design to allow quick and easy changeover from one size to another at all times.



Pie wrapping (transparent cellulose) machine. Operates at 40 per minute. Courtesy, Amsco Packaging Machinery, Inc.

Semi-automatic machinery obviously has its advantage over other kinds and is preferred for such packaging conditions. Aside from the fact that semi-automatic package machines are considerably less expensive, they do not require the skilled mechanical supervision as the operators can quickly learn the simple adjustments. For private brand packing, short runs, limited output, semi-automatic units prove in a practical application as economical as automatic machines.

There are many types and kinds of semi-automatic packaging units. Besides liquid or semi-solid filling machines, labelling machines, case sealing machines, wrapping machines, etc., there are units for handling dry materials, whether powders, crystals, or granules filled into any style containers, also semi-automatic carton sealing machines.

Units for filling come under one of three classifications. They may be net weighers, which weigh into a weighing bucket and discharge into a container a predetermined amount of the material. They may be gross weighers, which feed the materials directly into the container, the container in this case being a receptacle. Gross weighers are used where the product is sticky or of such a nature that it cannot be weighed in a practical manner in weighing buckets due to building of materials in the buckets causing inaccuracies. The third type is volumetric measuring machines. They may operate by a principle of filling into pockets which are adjustable or by a predetermined number of revolutions of the auger feeder or a combination of both.

Carton sealers of the semi-automatic type primarily consist of a gluing roll which applies glue to two sides of a carton flap. This flap when folded adheres to the short-end flaps and the outside flap making a four-fold glued, sealed end. These sealers can be purchased in the form of a glue roll with counter shaft or with pressure drier. They operate on cold glue and in some cases can be used in connection with automatic net weighers. There are perhaps a dozen sizes of semi-automatic sealers producing anywhere from 6 to 25 packages per minute requiring one or two operators.

The semi-automatic wrapping machine fits admirably into large and small plants alike. This is best proven by the extremely favorable acceptance it has met throughout the United States during the past few years. Confined to no single industry or related group of industries, these machines are being used everywhere for wrapping not only biscuits, cakes, candy, coffee, dried fruits and other food products, but drugs, tobacco, soap, batteries, clothespins, paper napkins, greeting cards and an unlimited variety of merchandise.

Very flexible and capable of adjustment from one size package to another in several minutes time, one machine performs a multitude of wrapping jobs, even cutting its own sheets to size from the roll and delivering them singly to the operator for speedy pickup. The operator then puts the sheet around the package and sets both into the wrapping machine where folding and sealing is automatically completed. Even soft

Your Bottling Problems

BOTTLING and PACKAGING ENGINEERS

Manufacturers of

Bottle Washers, Fillers, Filters, Corkers, Cappers, Conveying Machinery, Bottling Machinery and Water Stills

MANUFACTURERS OF

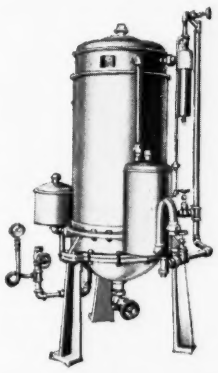
Hand Operated Equipment; Semi-Automatic Machines; Full Automatic Machines for Liquids, Semi-liquids or Semi-solids.

- Cappers (hand, semi or full automatic)
- Conveyors (belt or gravity)
- Corkers (hand, semi or full automatic)
- Dryers (for bottles and cans, semi or full automatic)
- Fillers (vacuum type, accurate measure type, piston type, syphon type, hand operated, semi or full automatic)
- Pasteurizers (hand fed, progressive or continuous automatic)
- Preheaters (semi or full automatic)
- Rinsers (hand, semi or full automatic)
- Tanks (wood, glass-lined, stainless steel or copper)
- Vacuum bottle cleaning and filling (built in a single machine with one dual head)
- Washers (semi or full automatic for bottles, jars and cans)
- Water Stills (exclusive manufacturers of the famous "Polarstils")

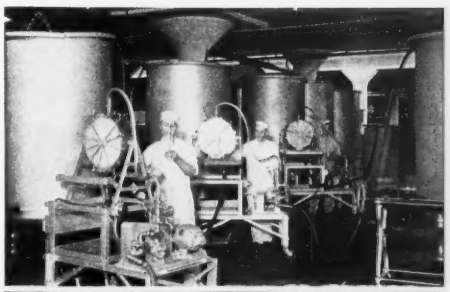
WATER STILLS

Industrial, laboratory, hospital and marine types in all capacities.

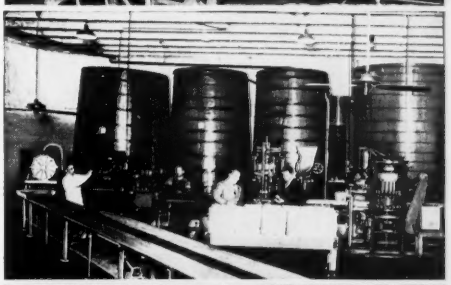
We are exclusive manufacturers of the famous Polar Water Stills manufactured under the A. C. Jewell patents.



SOME TYPICAL U. S. INSTALLATIONS
shown below

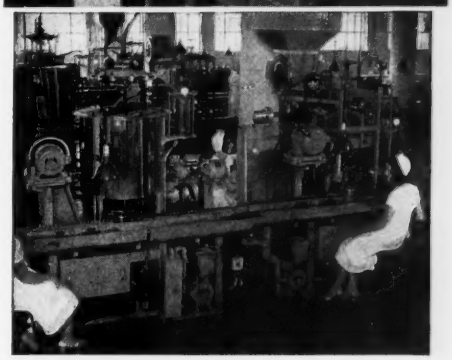


View of a battery of U. S. Filters used by one of the largest drug manufacturers in this country.



U. S. engineered California Wine Producer's bottling plant using a complete automatic line.

An installation of U. S. "Cascade Washers" together with U. S. drying and conveying equipment used in a prominent food product plant.



View of a well-known pharmaceutical plant which has three complete lines of washing, drying, filling and packaging equipment furnished by U. S.

Call on our Engineering DEPARTMENT

U. S. engineering service is available to help you solve your bottling problems. If you wish to personally visit U. S. engineered plants, we will be glad to tell you where they are located and arrange a visit.

U. S. BOTTLERS MACHINERY CO.

4030 North Rockwell Street — **Offices in all principal cities** — **Chicago, Illinois**

bakery goods such as cakes, or packages composed of many loose units such as paper towels or napkins and other items formerly thought impractical for machine wrapping lend themselves readily to the semi-automatic wrapping machine without breakage or damage of any kind. The reason for this is that there is just sufficient

Unit for wrapping and sealing (transparent cellulose) packages of dates. Courtesy, Miller Wrapping & Sealing Machine Co.

human handling to make allowances for the physical characteristics of these packages, a condition not possible with fully automatic equipment.

The ability of the semi-automatic wrapping machine to wrap packages composed of two or more pieces stacked or placed together loosely with little or no cardboard support, as well as its ability to wrap soft cakes and candies has been an assistance worth thousands of dollars to producers of this kind of merchandise. It has enabled them to abandon costly hand wrapping in favor of neat, mechanically wrapped packages. Quite frequently it is found machine wrapping requires less wrapping material per package too, also the heat-sealing feature of these machines has eliminated the expensive accessories necessary to glue sealing as well as the mess associated with this method. Investment for a compact, thoroughly efficient semi-automatic wrapping machine is surprisingly little.

Trays of dates and other dried fruits are quite often wrapped on semi-automatic equipment. Complete trays are not necessary, however. Many manufacturers merely package their fruit on a cardboard base only, or a cardboard base with side or end flaps, then wrap it in transparent cellulose on the semi-automatic wrapping machine. The slight amount of human handling enables provision for loose pieces or irregularities in shape since these can be pressed into place without a second's delay as the packages are set into the wrapping machine. The small differences in package shape that occasionally occur can be easily taken care of with this type equipment, and for extremely perishable goods, such as butter, chocolate, cakes with soft icings and similar items, provision is made to keep the product moving through the sealing plates without intermission. This means that even products subject to easy melting or in other ways unfavorably affected by heat, can be wrapped efficiently without danger of spoilage.

The candy department of the Walgreen Drug Company finds the semi-automatic wrapping machine a valuable asset in wrapping their candy cartons in transparent cellulose. It keeps the finished packages moving faster, conserves space by concentrating production into a small area, giving uniform results and tightly sealed packages that do not "pop open" after they have left the factory. The operator merely places the cellulose around the carton, sets it in the wrapping machine and trips a lever. The folding and sealing are then automatically completed, and at the same time another sheet of cellulose is cut from the roll and laid out for the next package. Cartons of many sizes are wrapped in the course of a day at a speed of from fourteen to sixteen a minute. This company estimates time required for a complete changeover from one size package to another at three minutes.

Bottle wrapping is the newest achievement of the semi-automatic wrapping machine. Using many of the principles of the package wrapping machine to retain the valuable feature of adjustment for many sizes, this equipment also provides a clever means of neatly tapering the cellulose wrap from shoulder to cap of bottles. Here too the hand work is very limited. The cellulose sheet is simply placed around the bottle, the bottle and sheet set in the wrapping machine and a lever tripped.

Semi-automatic machine for wrapping bottles in transparent cellulose. Courtesy, Miller Wrapping & Sealing Machine Co.

Folding, sealing, and ejecting of the wrapped bottle is then automatically completed at a speed of from six to nine hundred an hour.

To keep pace with the increasing popular use of printed wrapping materials, the electric eye is now also available with semi-automatic equipment, cutting printed sheets from the roll with unerring accuracy so that the design or printed matter may be registered in the exact desired position on each succeeding package.

PACKOMATIC PACKAGING MACHINERY IS KNOWN ALL OVER THE WORLD FOR RELIABLE EFFICIENT PERFORMANCE WITH ECONOMY AND Speed

AUTOMATIC MACHINES FOR ALL PACKAGING PURPOSES

CARTON FORMING MACHINES
CARTON SEALING MACHINES
CARTON SEALING SEMI-AUTOMATIC
CARTON SEALING CONVERTIBLE
CARTON SEALING ADJUSTABLE

AUTOMATIC NET WEIGHT SCALES
AUTOMATIC GROSS WEIGHT SCALES
AUTOMATIC VOLUMETRIC FILLERS
SEMI-AUTOMATIC NET WEIGHERS
SEMI-AUTOMATIC GROSS WEIGHERS

CONTAINER SEALING MACHINES
CAN LABELING MACHINES
COUPON INSERTING MACHINES
AUGER PACKING MACHINES
AUGER FILLING MACHINES

A PACKOMATIC ENGINEER WILL CALL UPON REQUEST, NO OBLIGATION

FOR FILLING—HANDLING—SEALING CARTONS—BAGS—CANS—CASES

JFCo

J·L·FERGUSON COMPANY
JOLIET, ILLINOIS.

BRANCH OFFICES
NEW YORK-CHICAGO-CLEVELAND
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A SINGLE UNIT COMPLETE PACKAGING

Long years of producing only the very finest equipment is today reflected in the number of outstanding manufacturing plants equipped with Stokes & Smith Packaging Machinery.

S & S Engineers will gladly co-operate in solving *your* packaging problem.

Convenient payment terms are available.

Write for information.

* * *

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PACKAGING MACHINERY — PAPER BOX MACHINERY

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FILLING MACHINES . . . for all Powdered or Free-flowing products, Pastes and Creams.

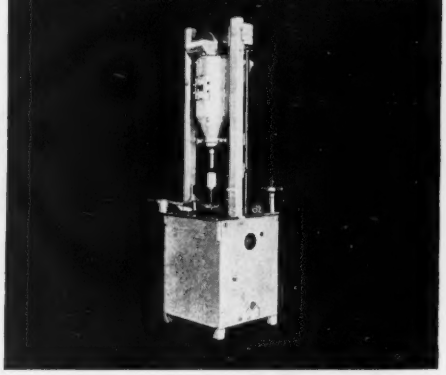
CARTON FILLING AND SEALING MACHINES

BAG AND ENVELOPE FILLING AND SEALING MACHINES

TIGHT-WRAPPING MACHINES

COMPLETE PACKAGING LINES . . . Fully or Semi-Automatic, producing 15 to 120 units per minute.

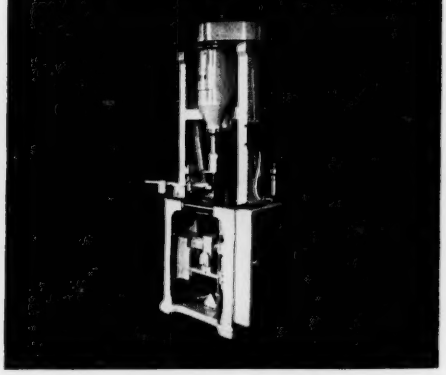
S & S UNIVERSAL FILLER



MATERIAL: Powders, granular products, pastes
CAPACITY: ½ oz. to 5 lbs. — any container
PRODUCTION: 15 to 30 per minute
OPERATORS: One

Filling by gross weight, volumetric measurement or packing.

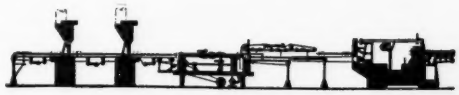
S & S HEAVY DUTY FILLER



MATERIAL: Powders, granular products, pastes
CAPACITY: ½ oz. to 15 lbs. — any container
PRODUCTION: 10 to 20 per minute
OPERATORS: One

Filling by gross weight, volumetric measurement or packing.

OR A LINE



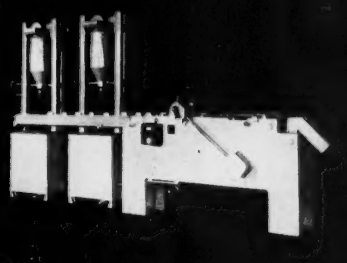
MATERIAL: Powders, cereals, seeds, chemicals, etc.

CAPACITY: Envelopes 2" to 8" high, when closed.

PRODUCTION: 60 to 120 per minute.

OPERATORS: None. Entirely automatic. Connects with and seals filled envelopes from powder filler or net weight scale.

S & S BAG AND ENVELOPE SEALER



S & S NEVERSTOP CARTON FILLER & SEALER

MATERIAL: All food and grocery products in cartons

CAPACITY: Maximum carton: 10½" x 6½" x 4½". Minimum carton: 2¾" x 1⅝" x ¾"

PRODUCTION: 40 to 75 per minute.

OPERATORS: One

Several Models. Feeds cartons, bottom seals, fills, top seals.

MATERIAL: All food and grocery products

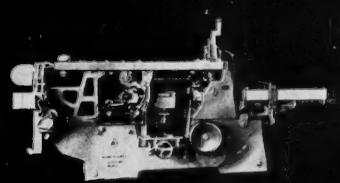
CAPACITY: Maximum carton: 10" x 6½" x 4". Minimum carton: 3¾" x 1½" x 1"

PRODUCTION: 60 to 70 per minute

OPERATORS: One

Automatically tight-wraps carton with printed label, after it is filled and sealed, making attractive, sift-less tight-wrapped package for all products.

S & S AUTOMATIC TIGHT WRAPPER



MATERIAL: Powders, granular products

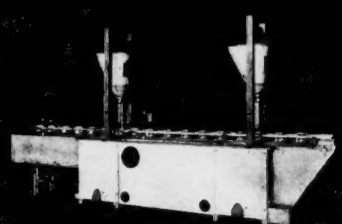
CAPACITY: 1 oz. to 5 lbs.—cans, boxes, canisters

PRODUCTION: 20 to 60 per minute

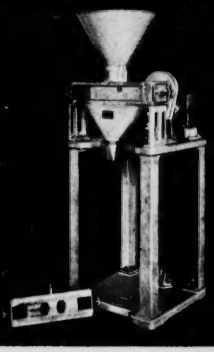
OPERATORS: One

Filling by gross weight, volumetric measurement or combination of both.

S & S SINGLE OR DOUBLE UNIT FILLER (Automatic)



S & S SIMPLIFIED VOLUMETRIC FILLER



MATERIAL: Salted and shelled nuts, tea, whole spices, flaked cereals

CAPACITY: 1 oz. to 1 lb.—bags, cans, boxes, etc.

PRODUCTION: 20 to 30 per minute

OPERATORS: One

Filling by volumetric measurement.

XUM

METHODS OF COLLAPSIBLE TUBE FILLING

THE INCREASING use of collapsible tubes is due in no small way to the ease of operation and flexibility, as to changes in size, of the modern tube filling equipment. A complete outfit for filling, closing and clipping collapsible tubes may be purchased for as little as $130 and this will perform these operations at 15 to 20 tubes per minute. The small user of collapsible tubes is thus almost as efficient, right from the start, as the larger user. A complete range of equipment of various sizes is available without the necessity of building any special equipment. For less than a thousand dollars a complete outfit to turn out 35 tubes per minute can be had. As production warrants, this output can be increased to sixty or eighty tubes per minute. A new completely automatic filling, closing and clipping machine operates at speeds up to 140 tubes per minute with one operator and is designed to feed directly into automatic cartoning machines.

It is also common for a tube user to attempt to overfill a tube in order to give a "fat" appearance and impress the purchaser with the quantity of material he is getting. This over-filling of tubes is efficiency's greatest enemy as it is necessary to stop frequently and wipe off the jaws of the closing devices. In addition to this, these tubes are more liable to leak after being on the dealers' shelves under unusual climatic conditions. A properly filled tube has sufficient flat on the closed end to allow material to expand without seepage through the closed and clipped ends. An "overfilled" tube will usually have a layer of the material inside the fold of the tube, and if the material is even mildly corrosive, such as a shaving cream, the tube decoration and the clip, if used, will soon be spoiled in appearance. A recent development which permits tubes to be sealed hermetically eliminates this trouble entirely. The hermetic type of closure requires a tube precoated with a special compound by the tube manufacturer. When the tube is closed, the strength of the closure and its resistance to seepage are equal to those of the wall of the tube itself. No clip is used and less tube length is required than for other types of clipless closures that are on the market.

Battery of collapsible tube filling machines. Courtesy of Arthur Colton Company

The selection of tube filling equipment depends on three important factors: first, the consistency of the material at the time of filling; secondly, the range of sizes of tubes; third, the daily production which is to be anticipated by the plant.

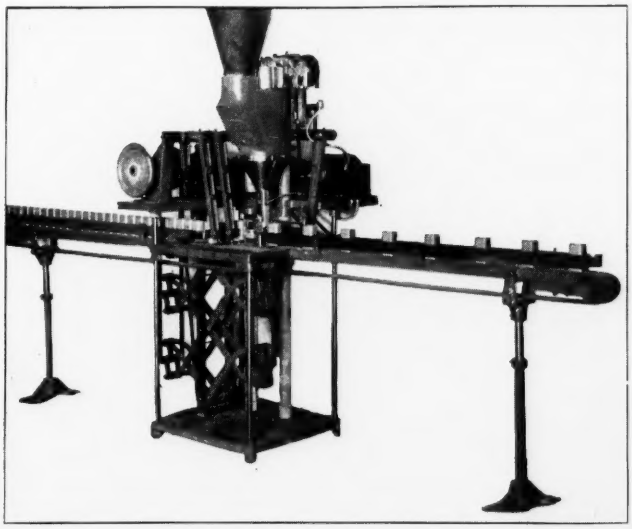
If possible, materials such as cold creams, ointments, etc., should be filled in a warm fluid condition, as much simpler filling units can be employed. At the same time, it is unwise to fill tubes with any material in a warm state, should the material shrink considerably on cooling. This shrinkage will buckle the wall of the tube, giving it a partially empty appearance, which is undesirable to the consumer.

Two methods of sealing the tubes after filling can be used. These are the use of a double fold, as in the past, or the use of "clipless closures," of which there are several types available. These closures permit the saving of cost of clips, maintenance and, with semi-automatic machines, the expense of an extra operator.

The closing of tubes using clips is done as follows:

LINOMATIC PACKAGING MACHINES

faster . . . more accurate . . . more economical

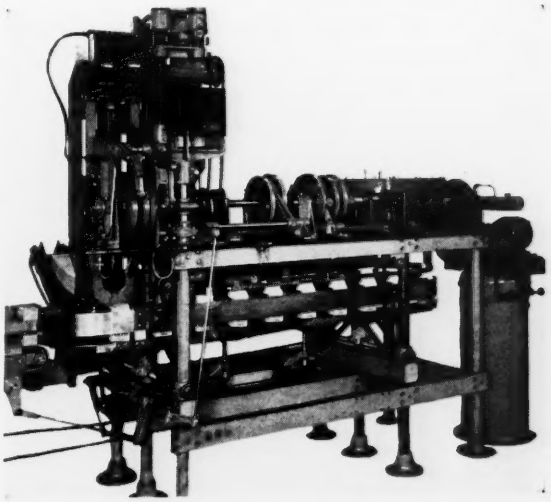


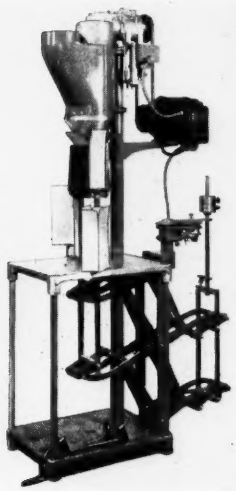
Fully Automatic Packer-Weigher

With only one attendant, to supply empties, weighs and packs 30 to 60 cans or cartons per minute with consistent accuracy. If no can is in feeding position, feeder does not function. When can enters, feeder starts. Absolutely dustless operation. Ideal for spices, jelly powders, cocoa, face powder, paint powder, cleansers, etc., etc.

Automatic Coffee Bag Machine

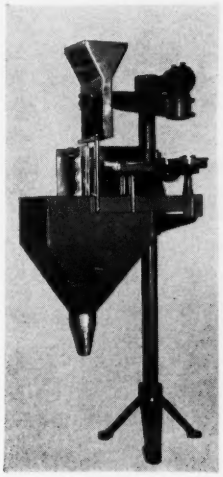
A new, fully automatic machine, vastly improved over anything existing before. Weigher has electric eye control. Bags fed automatically from reservoir. Automatic controls fold bag and seal with tin-tie crimp, delivering 35 bags per minute of perfectly packed coffee.

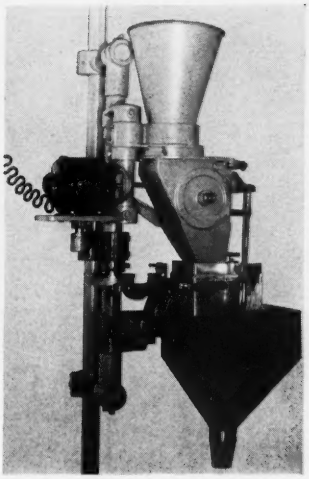




Hand Operated Packer-Weigher

Capacity—30 per minute. Sizes—up to five pounds. Accurate to within one-quarter ounce. Mechanical-electric trip . . . not affected by vibration. No finishing stream necessary. Ideal for large packages.





Net Weighers—Gravity and Power Feed Types

Capacity . . . 2 oz. to 3 lbs. For coffee, rice, beans, bird seed, etc. Continuous stream operation. Production . . . gravity—30 per min., power feed—40 per min. Accurate to 1/16 oz.

FRANKLIN STEEL WORKS

Packaging Machinery Division

JOLIET, ILLINOIS

The end of the tube is flattened, a portion of it turned over, and pressed flat. This operation is then repeated, all automatically, of course. For material such as lighter fluid, rubber cement, rubber solvents, etc., containing highly volatile material, it is sometimes advisable to make the first portion turned over wider than usual, with the second fold the regular width. This gives eight thicknesses of material rather than the six thicknesses obtained with the regular fold, and in reality makes the seal fifty per cent more secure.

After the closing operation, the clipping is performed. This guards the end of the tube and prevents accidental opening of the folded end. Tube clips are cheap and are applied automatically by most users. At the time the clip is applied, a control number may be stamped on one side of the clip.

One of the clipless closure types referred to above consists of making the two usual double folds and then turning the corners back obliquely. Another type is accomplished by making the two usual double folds with the second fold wider than is customary and then folding this double fold in a reversed direction after which the corrugations are applied to give added strength and security to the tube contents or by making an integral clip from the tube metal itself to accomplish the same results.

A decorative band to match the tube decoration can be used on the end of the tube to enhance its appearance. Control numbers or dating codes can be stamped on the tubes using the clipless closure. Ejection of the tubes from the machine after the three operations of filling, closing and clipping are performed, can be automatic or manual as desired.

A recent development in collapsible tube filling is the application of the electric-eye as utilized to obtain proper registration, during the filling and closing operations, of trade mark or other decoration on the face of the tube. Formerly done by operators, it is now possible to obtain such placement automatically and at higher speeds.

STANDARD TYPES OF LABELING MACHINES

LABELING MACHINES may be classified, first, as semi-automatic and automatic and the latter as rotary, straightaway and can labelers.

The semi-automatic labelers were designed primarily for the labeling of beer and similar bottles, but their use today covers almost the entire labeling field. They are in greater demand today than ever because even the small manufacturer believes in machinery for its economy and superior quality of the work performed. The semi-automatic labeler, however, requires an operator to feed each package or container to be labeled. The article is placed into the machines by hand, the label or labels are applied and then the article removed from the machine by the operator. The speed of these machines being limited to 25 to 30 articles per minute or less, depending upon the character of the article and the energy of the operator, led to the development of the fully automatic labeling machine. Nevertheless, the semi-automatic labeler will always be popular and profitable for small production and where short runs of many different sizes and shapes must be labeled.

The automatic rotary labeling machine, which is an outgrowth of the semi-automatic, gums the label and applies it in a similar manner, but it has incorporated conveyors for feeding the articles through the machine without handling them by the operator and therefore is much faster than the semi-automatic labeler, attaining a speed of 85 to 90 per minute. A recent important improvement in this type of labeler is the attachment for applying tinfoil around the neck of ginger ale and like bottles. They are furnished by several concerns and are particularly adapted to the labeling of round bottles and jars used in the bottling and food industries as well as some chemical and drug products. They apply on bottles, the body label only, the body and neck label or the body and neck labels and the tinfoil.

The straightaway type of automatic labeling machines, which are of more recent design than those above mentioned, go further into the general field of labeling because they can be adapted to sealing or labeling cartons, boxes, wrapped cakes of soap as well as the food, drug and bottlers' products. They have many advantages in the way of speed, accurate registration, cleanliness, adjustability and accessibility. They are built in two standard types known as single and double labelers, both of which types are also furnished in the duplex models.

The single labeler applies one label on one side of the package or container and the double labeler two labels on opposite sides simultaneously.

The single duplex labeler applies one label on each of two packages or containers at the same time and the double duplex four labels on both sides of two articles simultaneously. In other words, if these machines are running sixty revolutions per minute, the single will apply 60, the double 120, the single duplex 120 and the double duplex 240 labels per minute although the machine is running comparatively slowly.

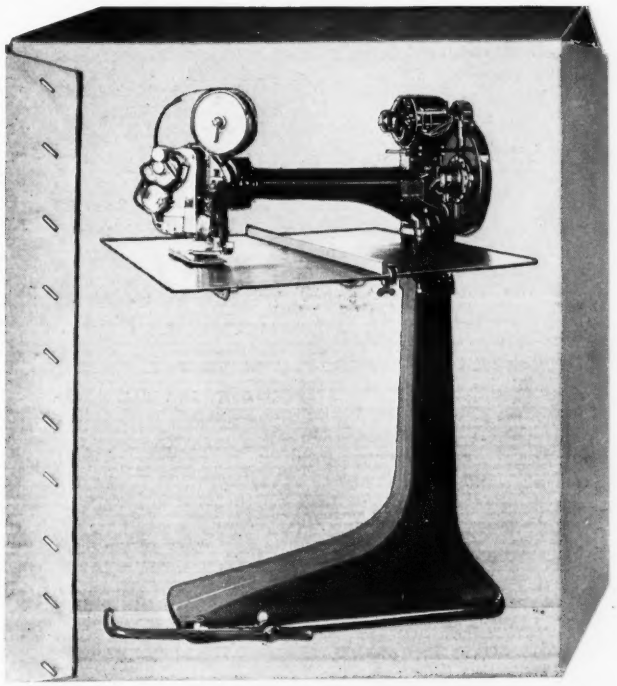
The duplex labeler is a recent development born of the insatiable American demand for speed and production. In order to keep pace with the filling, capping, cartoning and wrapping machines, all of which are often hooked up with an automatic labeler in a straight-line production unit, it was necessary to get greater out-

BOSTON-BLISS-LATHAM

WIRE STITCHING MACHINES

For Assembling and Sealing

CORRUGATED AND FIBRE SHIPPING CASES



Equipment for Stitching Set Up and Folding Boxes, Telescope Boxes, Display Cartons, Shopping Bags, Book Matches, Milk Bottle Caps, Pocket Books, Belt Loops, Luggage, Toys, and a large variety of other Products.

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BOX STITCHERS

BLISS HEAVY DUTY BOX STITCHER

The Bliss Box Stitcher is built for heavy duty work on all grades and thicknesses of boxboard used for corrugated and solid fibre shipping containers; also suitable for all kinds of telescope containers, suit boxes, folding boxes, set-up boxes, cracker caddies, display boxes, etc. Adaptable for stitching paper bags, bag handles and various other specialties.

The Bliss Box Stitcher will form and drive as many as 500 stitches per minute. The only limitation on production is the ability of the operator to handle the stock through the machine. Speed of machine may be varied to suit the nature of work by changing the motor pinion.

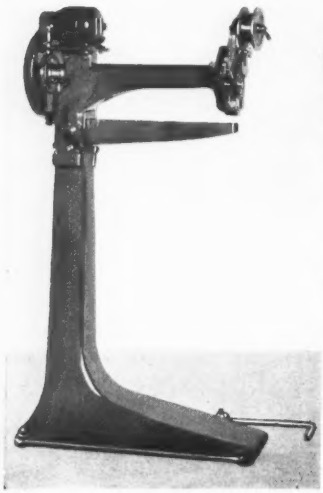

Fig. 1. Bliss Box Stitcher

Clearance between the stitcher head and clinching anvil is 1⅝", a valuable feature facilitating insertion of heavy work and aiding visibility.

The stitcher may be equipped with tables, gauges or other fixtures to guide work and assist in high speed operation, and in handling specialty work.

This machine is recommended for plants having continuous steady production of all types of containers and any work that demands the sturdiest type of equipment.

SPECIFICATIONS. Bliss 90° or 45° Stitcher Head; uses any of the standard ribbon and Hybar wires, also other flat and round sizes. (See page 10 for complete stitcher head and wire data.)

Three throat lengths—15", 25" or 33". Extra long throat lengths up to 48" may be supplied, as ordered.

Standard Heights, 40", 45", 50", from the stitching point to floor.

Motor, ¼ HP any desired electrical specification.

BOSTON NARROW HEAD BOX STITCHER

The Boston Box Stitcher embodies the Boston Vertical Feed Narrow Stitcher Head fully described on page 5.

This machine is used for stitching the regular line of corrugated and solid fibre shipping containers; suitable also for telescope containers, suit boxes, folding boxes, cartons, bags and other specialties.

This box stitcher is recommended for plants handling the usual thicknesses and grades of stock. It operates at speeds up to 300 stitches per minute and production depends on ability of the operator to handle work through the machine.

Suitable tables, gauges and fixtures for conveniently feeding the blanks and increasing production are available for special box work. The stitcher head is quickly detachable for service or adjustments.

Fig. 2. Boston Box Stitcher

SPECIFICATIONS. Boston Narrow Stitcher Head which can be arranged to drive stitch either parallel or at right angles to arm; uses any of the standard sizes of ribbon and Hybar wire, also other flat and round sizes. (See page 5 for complete stitcher head and wire data.)

Two throat lengths—12" and 24".

Clearance between stitcher head and clinching anvil, 15/16".

Standard height, 44" from clincher to floor.

Motor, ¼ HP any desired electrical specification for attaching to either light or power line.

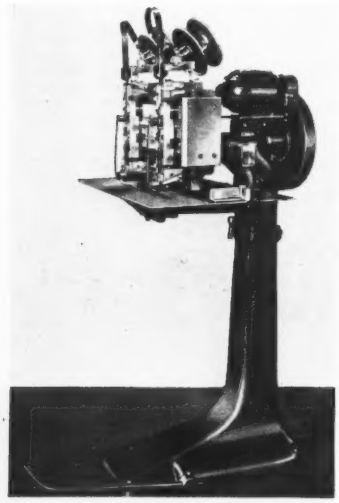

Fig. 3. Boston Double Head Stitcher

BOSTON ADJUSTABLE DOUBLE HEAD STITCHER

Boston Adjustable Double Head Stitcher uses No. 15 Type Heavy Duty Boston Stitcher Head. Heads are adjustable sidewise, with a minimum spacing of 3" from center to center, and maximum spacing as specified. Uses ½" crown stitch, and stitches work up to ½" in thickness. Drives all sizes of ribbon and Hybar wire, also other flat and round sizes. Table is equipped with adjustable back and side gauges for registering work.

Used for stitching suit boxes, cartons and other types of folding or set-up boxes, and for any other stitching requiring two stitches uniformly spaced.

Available with solid clincher or moving clincher as ordered.

DEXTER FOLDER COMPANY—28 West Twenty-third Street, New York

BOX STITCHERS

Fig. 4. Boston No. 10 Box Stitcher

BOSTON LIGHT DUTY BOX STITCHER

The Boston No. 10 Box Stitcher is a light model machine equipped with the Boston No. 26 Narrow Stitcher Head. Clearance between stitcher head and clincher anvil is ¾". Wire used is 21 x 25 flat or 21 to 25 or 25 to 28 round, and work up to ¼" in thickness may be stitched. Crowns may be furnished for ⅜" or ½". Height from floor to stitching point is 36".

It is adapted for light stitching operations, either on boxes or flat work such as bag sealing and attaching articles to cards. When built to drive a pointed stitch and equipped with a table it is much used for attaching tickets to hosiery and other textile articles.

Distance from stitch to inside edge of frame is 10 inches.

BOSTON FOOT POWER BOX STITCHER

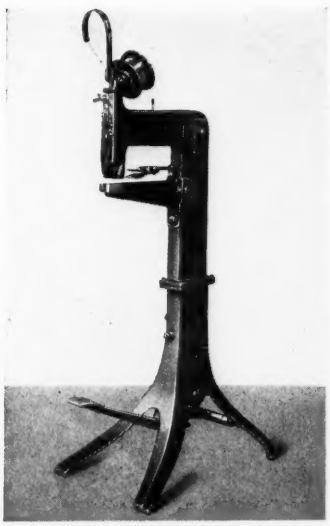

Fig. 5. Boston Foot Power Box Stitcher

The Boston Foot Power Box Stitcher is a new machine for use in plants requiring small quantities of container stitching, the smaller sizes of Bliss Boxes, paper bags, bag handles and other types of work that come within the range of the box stitcher. Easily portable from one department to another.

One operation of the pedal forms and drives a single stitch. The Boston No. 5, Built-in, Vertical Feed Stitcher Head is used. It is readily accessible for repairs or adjustment. Uses one size of wire, No. 2 Hybar (.060 x .024) with ½" crown. Stitches up to ½" in thickness. Also available for 21 x 25 flat wire.

The stitcher has a 12" throat length, with arm adjustable for thickness of work. One movement adjusts head for all thicknesses.

Other specifications are: Height to clincher head 40¾"; weight 125 lbs.; floor space 27 x 22½".

LATHAM No. 20 BOX STITCHER

Fig. 6. Latham No. 20 Box Stitcher

The Latham Box Stitcher, equipped with Latham Roll-Feed Head, is a moderate priced machine designed for stitching the regular run of boxes, containers and bags used by mail order houses, clothing, rubber and metal trades manufacturers, and similar industries. It will stitch any box requiring an arm length of 12 inches or less.

The machine uses .020 and .017 ribbon, or No. 20 x 25 bookbinder's wire, and stitches at speeds up to 300 per minute, with standard ½" crown.

Machine is simple in construction with few moving parts.

SPECIFICATIONS: Throat length 12"; standard height 43" from stitching point to floor; capacity ⅜" in thickness. Motor ¼ H. P. any desired electrical specifications.

LATHAM CORNER STAY STITCHER

The Latham Corner Stay Stitcher places a right angle stitch around the corner of the box. Corner stitching makes a strong box, neat in appearance, and is a practical, economical method of corner sealing. Illustrations of corner stitching are shown on page 9.

The machine is used extensively for hardware packing boxes, cracker caddy covers and boxes for other purposes; also for strengthening the higher grade set-up boxes which are later covered with paper. Operating speeds on such work as caddy covers are frequently as high as 20 or more complete covers per minute. Clinching arm is equipped with spring gauge for accurate registering of the stitch. This machine is considered the most successful corner stitcher throughout the trade. Straight cut-off or pointed stitch is optional.

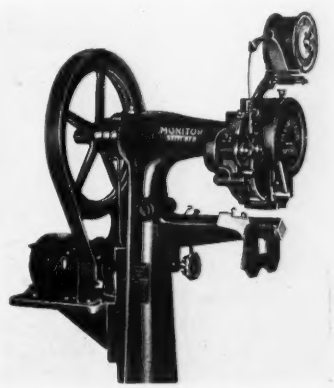

Fig. 7. Latham Corner Stitcher

Machine is equipped with Latham Roll Feed Stitcher Head which drives a stitch measuring ½" from corner of box to clinch. Distance from stitch to inside of frame is 12". Wire used is .017 to 020 flat ribbon, or No. 20 x No. 25 size.

Motor, ⅙ HP any desired electrical specifications.

BOTTOM STITCHERS

BLISS BOTTOM STITCHER

The Bliss Bottom Stitcher, equipped with the Heavy Duty Stitcher Head, is recommended for stitching the bottoms of regular slotted containers, Bliss Collapsible boxes and many other purposes, where maximum production is required.

The machine operates at speeds up to 300 or more stitches per minute and handles all the usual sizes of shipping containers. No adjustments are required for any size of container within its range. Production varies from four to eight cases per minute.

Fig. 8. Bliss Bottom Stitcher

For medium sizes of boxes the 1⅝" clearance between post and stitcher head allows sufficient space for convenient handling without tilting the post; for large size boxes the post is moved forward by means of a foot lever to aid placing the box in position for stitching. The head of the post, which contains the clincher, may be adjusted up or down with a few turns of the wrist. A heavy spring is mounted in the post permitting clincher to accommodate variations in the thickness of stock. Adjustments are provided to take up any wear in the post at the joint.

The rugged construction of the Bliss Bottom Stitcher assures long service on heavy duty work.

SPECIFICATIONS. Built in two sizes: 15" or 25" throat.
Motor, ¼ HP any electrical specification desired.
Height to clinching point from floor 45" or 50".

LATHAM No. 22 BOTTOM STITCHER

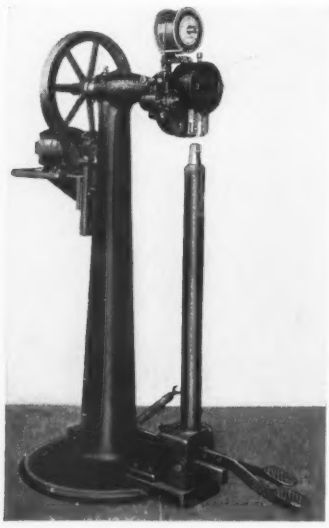

Fig. 9. Latham No. 22 Bottom Stitcher

The Latham No. 22 Bottom Stitcher is a moderate priced machine equipped with Latham Roll Feed Stitcher Head, and is used for stitching the bottoms of regular slotted containers and other types of boxes, either corrugated or solid fibre. Handles any size of box up to 24" wide without adjustment for size.

Clincher is adjustable for thickness of work, by turning knurled sleeve at top of post.

The stitching post moves forward for receiving and removing the box.

SPECIFICATIONS. Uses .020 and .017 ribbon or No. 20 x 25 bookbinder's wire. Capacity up to ⅜" in thickness, with ½" width crown as ordered. Height, 43" from stitching point to floor.

Motor, ¼ HP, any desired electrical specifications.

BLISS DUPLEX BOTTOM STITCHER

The Duplex Head Bottom Stitcher drives two stitches simultaneously, enabling an increase in production of 50% to 60% over what is possible with single head stitchers, without increasing labor cost. This new bottom stitcher is proving to be a popular machine in plants handling large quantities of containers, both of the type having outside flaps to meet, as well as for boxes having an overlap.

It is recommended for the following products: canned goods, bottled goods and other food products; shoes, tissue paper, soap and any commodity packed in quantity.

One operator can stitch 6 to 12 boxes per minute. With two operators (one folding and one stitching) as many as 18 boxes per minute can be stitched.

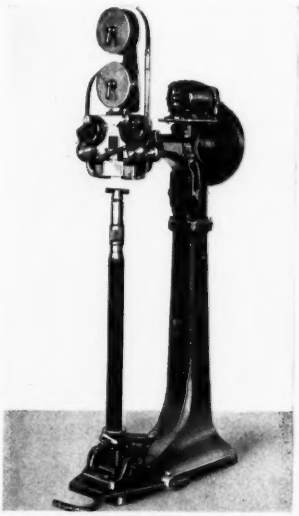

Fig. 10. Bliss Duplex Bottom Stitcher

Machine is equipped with Bliss Heavy Duty Duplex Stitcher Head, and post with double clinching bar, spaced for driving stitches 2½" apart (the spacing required by the Railroad Classification). One pedal controls operation of post and stitching head, reducing time to insert and remove the box. No adjustments are required for various sizes of boxes. Corrugated or solid fibre boxes may be stitched with equally satisfactory results.

SPECIFICATIONS. Built in one size with 15" throat length. Height to clincher 45". Drives up to 600 stitches per minute. Motor ⅓ HP any electrical specification required.

BOSTON BOTTOM STITCHER

The Boston Bottom Stitcher, equipped with Boston Narrow Stitcher Head, is a general purpose machine for stitching bottoms of corrugated and solid fibre containers and other work.

It operates at speeds up to 300 stitches per minute, and will bottom seal containers up to a depth of about 30". Its convenient operating features assure high production per day.

The post swings to the right to aid operator in placing box in position for stitching. One pedal advances the post to stitching position and also engages the stitcher mechanism, a time saving feature. Variations in thickness between two and three pieces of board are automatically compensated. Its smooth operation assures long service and low maintenance cost.

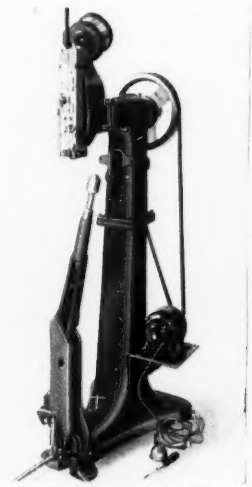

Fig. 11. Boston Bottom Stitcher

SPECIFICATIONS. Uses Boston Narrow Stitcher Head. (See page 5 for description and wire data.)

Built in one size with 12" throat.
Motor ⅓ HP any electrical specification required.
Height from floor to stitcher head 43".

DEXTER FOLDER COMPANY—28 West Twenty-third Street, New York

BOTTOM STITCHERS

BLISS COMBINATION BOX AND BOTTOM STITCHER

This is a general purpose machine which enjoys a wide use in a great variety of industries as it can be used for regular box stitching, and also for bottom stitching of containers. It is especially popular in plants using both Bliss No. 4 boxes and regular slotted containers. The former can be assembled on the box arm; the latter can be bottom stitched on the post.

Fig. 12. Bliss Box and Bottom Stitcher

Output on this machine is the same as that obtained on the Bliss Box Stitcher and the Bliss Bottom Stitcher.

When used for box stitching the post is removed and placed in a convenient socket on the pedestal, and the box arm placed in position; when used for bottom stitching the box arm is folded down and post placed in operating position. Change can be made in one minute. A small table may be attached to the box arm if desired.

The machine is built in two sizes, with 15" and 25" throat, respectively. The Bliss Heavy Duty Stitcher Head is used.

SPECIFICATIONS. 300 stitches per minute. Height to clincher 45" or 50".

BLISS COMBINATION TOP AND BOTTOM STITCHER

This combination machine is used both for bottom stitching and top sealing. It is intended for plants whose production does not warrant installation of separate Bottom and Top Stitchers.

Fig. 13. Bliss Top and Bottom Stitcher

It is much used in such industries as shoe manufacturing, meat packing, and shipping of food, shingles, rubber goods, chemicals, etc. Output is the same as that obtained on the Bliss Quick Lift Top Stitcher or the Bliss Bottom Stitcher.

For assembling cases by bottom stitching, the blade anvil is dropped down against the pedestal and the table is swung to one side; the post is placed in a socket on the base and locked in position. After the desired number of containers has been bottom stitched, the post is removed and table and blade anvil swung into position for top stitching. Less than one minute is required to make the change. Machine may be equipped with casters for moving about the plant.

Built in two sizes with 15" and 25" throats, and 26" x 30" work table. Handles boxes up to 25" in depth. The standard Heavy Duty Stitcher Head is used.

BOSTON MULTIPLE HEAD STITCHER

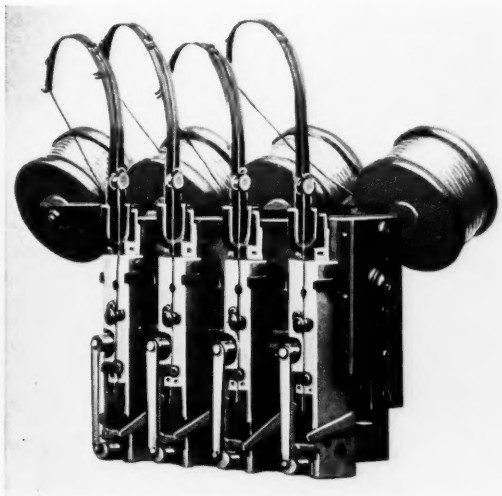

Fig. 14. Boston Multiple Head Stitcher

The Boston Vertical Feed Narrow Stitcher Head is the best known and most widely used head for multiple stitching operations. Two types of heads are available, the light No. 26 type with minimum center to center spacing of $1\frac{5}{8}$", and the heavy No. 15 type with minimum of 3".

Book matches are stitched on multiple head machines in gangs of two to ten up, using these types of stitcher head. Machines for stitching wire finger pulls in milk bottle caps and similar work in gangs or sheets are equipped with Boston heads. They are also used for numerous other types of machines built for special products that require stitching singly or in gangs.

A battery of Boston stitcher heads may be mounted on a frame and operated by a common bar drive. They are instantly adjustable for distance between stitches or for various thicknesses and are removable for service. Stitches can be placed to register so that they do not interfere with cutting or other converting operations.

Standard Boston Stitching machines with as many as twelve heads, handling work up to 33" in width, are available.

Information regarding special stitching requirements will be furnished on request.

SPECIFICATIONS FOR No. 15 HEAD. Drives all standard sizes of ribbon and Hybar wire, also other flat and round sizes. It operates at speeds up to 300 stitches per minute.

One crank movement adjusts head for all thicknesses.

Standard width of crown $\frac{1}{2}$". Special heads with $\frac{9}{16}$", $\frac{5}{8}$", $\frac{11}{16}$", $\frac{3}{4}$", crown furnished as desired.

Clearance between stitcher head and clincher, $\frac{15}{16}$".

Minimum spacing on multiple stitching, 3" center to center.

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TOP STITCHERS

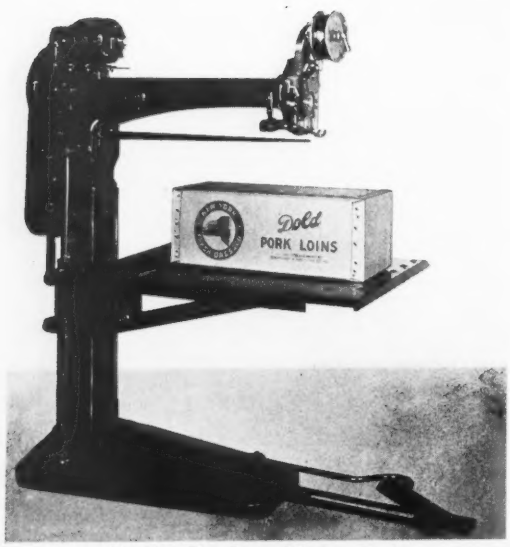


Fig. 15. Bliss Power Lift Top Stitcher

BLISS POWER LIFT TOP STITCHER

The almost entirely automatic operation of the New Bliss Power Lift Top Stitcher permits the operator to handle with much less effort many more containers per day than is possible on the quick lift top stitcher. It is recommended where large numbers of heavy containers are used and is especially suitable with conveyor installations.

By adjusting the work table to the same level as the conveyor line, filled containers may be transferred to the table without lifting, thus eliminating the possibility of tearing flaps or otherwise damaging the case in handling before it is sealed.

The stitcher is equipped with a power driven work table operated by a balanced foot pedal for raising or lowering the box. A device actuated by the top of the container automatically stops the table in just the right position for top stitching. One motor operates power lift and stitcher. A steel work table equipped with steel ball bearings permits free movement of container while being stitched.

SPECIFICATIONS. Equipped with Bliss Heavy Duty Stitcher Head. (See page 10 for description and wire data.)

Built in one size, with 33″ throat length. Table size 26 x 40″.

Height from floor to clincher anvil, 48″ taking boxes up to 24″ in depth.

Motor, ⅓ HP any electrical equipment required.

Fig. 16. Bliss Quick Lift Top Stitcher

BLISS QUICK LIFT TOP STITCHER

The Bliss Top Sealing Stitcher is used for wire stitching the tops of regular slotted containers and Bliss Boxes. Wire stitching provides a uniform pilfer proof closure, that gives added strength and rigidity to the container; it also effects a considerable saving over the cost of taping the joints.

Production depends on the size of the box; usuallly 3 to 5 containers of average size can be completely sealed per minute.

The clinching end of the blade anvil is quickly adjustable up or down as needed without the use of tools. The steel work table is equipped with steel ball bearings to permit free motion in any direction of the box being stitched. The table is supported by the Bliss quick lift mechanism which is positive in action and instantly adjustable up and down. Raising and lowering of table is facilitated by the use of counterbalancing steel springs.

SPECIFICATIONS. Equipped with Bliss Heavy Duty Stitcher Head. (See page 10 for description and wire data.)

Built in three throat lengths—15″, 25″ and 33″, accommodating boxes up to 33″ long, 33″ wide and 30″ deep.

Height from floor to clincher anvil, 45″ and 50″. Higher machines are obtainable as ordered.

Table sizes: 26 x 30″, 26 x 40″ and 30 x 40″.

Motor, ¼ HP any electrical specification required.

May be equipped with casters for moving about as desired.

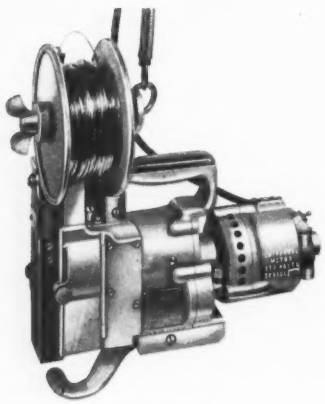


Fig. 17. Bliss Portable Top Stitcher

BLISS PORTABLE TOP STITCHER

Containers of large dimensions or exceptional weight which are inconvenient or impossible to stitch on a standard top stitcher are easily sealed with the Bliss Portable Top Stitcher. This unique machine is also useful for sealing the tops of mixed sizes of containers which vary in dimensions. The outstanding advantage of the Portable is that containers need not be removed from conveyor or truck, or handled in any way, the stitcher being taken to the container rather than the container to the machine. Plants having a use for this stitcher will find it to be practical and dependable.

The machine weighs but 20 lbs. As an aid to the operator the stitcher may be suspended from a hook or an overhead trolley by means of a spring. Thus the operator is free to move the machine in any direction, but does not have to support its weight at any time.

The Bliss Portable Stitcher is entirely self-contained with built-in Universal motor. Framework and body are made of light weight metals and alloys designed to combine maximum strength with minimum weight. The stitch is clinched on a C-shaped anvil permitting any length of seam to be stitched. The anvil is withdrawn from the seam by a rotary motion.

Uses No. 2 Hybar wire, with ⅜″ crown.

DEXTER FOLDER COMPANY—28 West Twenty-third Street, New York

REGULAR SLOTTED CONTAINER STITCHERS

BLISS DIAGONAL HEAD RSC STITCHER

The Bliss Diagonal Head Regular Slotted Container Stitcher, which drives the stitch at an angle of 45° to the manufacturer's seam, is a particularly desirable machine for stitching corrugated or solid fibre containers. The stitch when placed diagonally across the corrugations makes the strongest seam available. Solid fibre containers are also stronger when diagonally stitched, as the stitch is always across the grain of the board, thus enhancing its holding strength.

It is not uncommon to find this machine operating at speeds of 400 to 500 stitches per minute. As many as 10,000 containers with five stitches are frequently produced in a day's run.

The machine is equipped with the Bliss Heavy Duty Stitcher Head and a steel work table with quickly adjustable guides. The Bliss Open Head device for holding the flaps in position, is rigidly attached to the stitcher head casting and is therefore self-supporting. The clincher arm does not rest on the box blank at the moment of stitching, which feature eliminates the crushing of the corrugations or denting the board.

A parallel gauge table may be furnished on which the gauge is adjusted in one movement by a crank, and is always in correct parallel position. With this device change from one size to another is made in less than one minute.

SPECIFICATIONS. Built in 32", 38" and 48" throat lengths.

Height to clincher, 43". Size of Table, 42 x 39", 42 x 44", and 42 x 54".

Motor ¼ HP any electrical specification required.

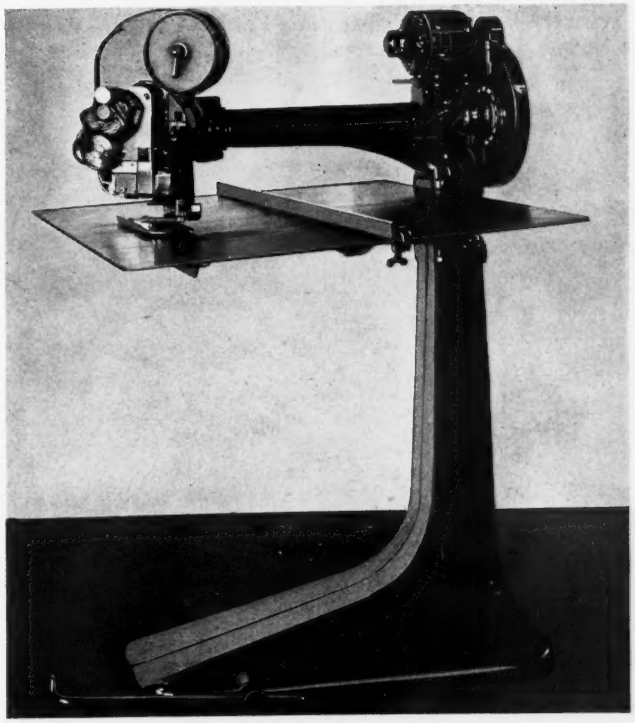


Fig. 18. Bliss RSC Stitcher (Diagonal Head)

LATHAM AUTOMATIC RSC STITCHER

The Latham No. 85 Automatic Regular Slotted Container Stitcher is performing a very important part in large box making factories where high production, large volume, uniform spacing and maximum efficiency are necessary. This machine is recommended for corrugated and solid fibre boxes and is particularly suitable for handling the seasonal demands for cases used for shipping canned goods, food products, bottled goods and other commodities.

The machine will stitch the manufacturer's seams of a wide range of sizes representing 90% of the boxes produced. Production varies from 1200 to 2500 containers per hour.

Design of the machine is arranged for quick set-up, time required averaging from two to five minutes. The stitcher head drives a single row or double row of stitches, or a single row of stitches with tie stitches at each end, at speeds up to 400 revolutions per minute. The stitch is driven at a 45° angle.

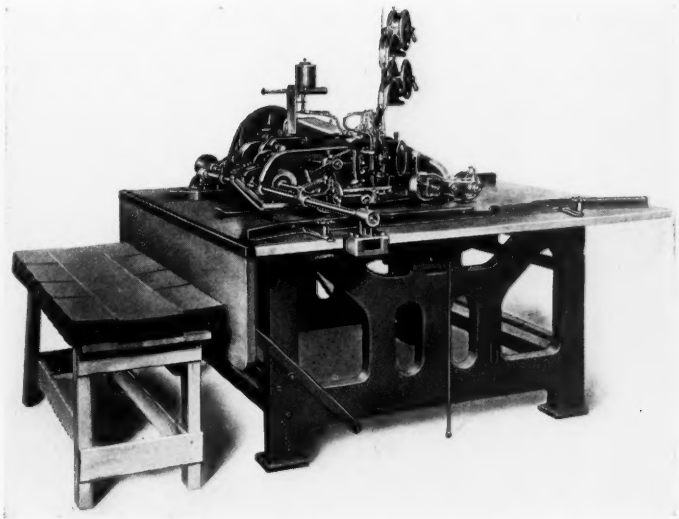


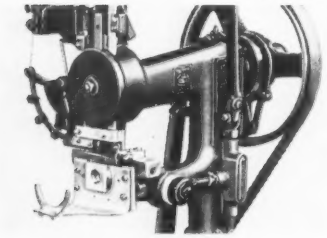
Fig. 19. Latham Automatic RSC Stitcher

The folded container is fed into the machine, where it is automatically picked up with rubber or steel rollers, moved into a squaring device, stitched and quickly ejected. The machine is ruggedly constructed and equipped with automatic lubrication system.

Feed table as shown in illustration with work on stand is used with only one operator, who picks up the blanks, folds them and lays them in position for automatic feeding. Wing of table may be raised in position for handling large blanks, in which case two operators are used, one folding the blanks and the other feeding.

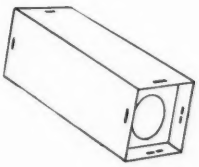
DEXTER FOLDER COMPANY—28 West Twenty-third Street, New York

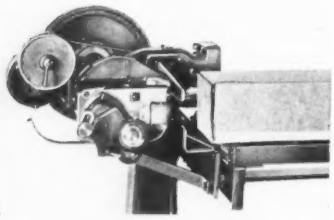
SPECIAL STITCHER ADAPTATIONS



BLISS AUTOMATIC CARTON STITCHER

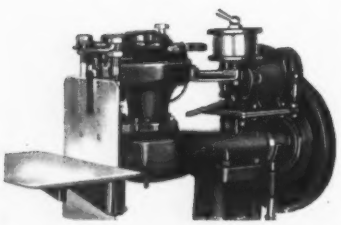
Used for stitching the end panels in special cartons. The end panels with flaps are inserted in the carton and the two are stitched on a square anvil, which makes one-fourth revolution after each stitch is driven. One pressure on pedal drives stitches in the four sides of the carton as it makes a complete revolution. The carton cannot be opened without mutilating. (Used by RCA Radiotron Company.)





BLISS HORIZONTAL HEAD BUMPER CASE STITCHER

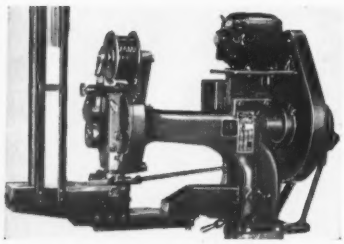
Bliss Stitchers with head placed in horizontal position are used for stitching the ends of automobile bumper boxes, shade cloth and screen cases, and other cases of the long, narrow type with the opening on the end. The machine may be mounted on a bench. A short blade anvil is used and the operation is the same as that of a regular top stitcher. A roller work table may be used to facilitate handling.



BLISS CADDY COVER STITCHER

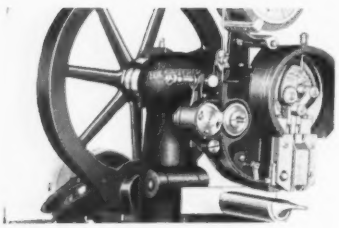
This machine, with horizontal stitcher head, is used for attaching covers to caddy boxes that have inner top flaps turned down on the outside. The box with cover is placed in position on the table, and a short blade anvil moves upward and behind the inner flap at the moment of stitching, thus attaching the cover and flap firmly.

It is also built with the blade anvil moving downward at the moment of stitching. This adaptation is used for sealing cartons and caddies that have no extra top flaps. The anvil enters a pre-cut slot in the top, or it may be sharpened for cutting its own slot. This machine is also used for sealing telescope boxes.



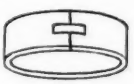
AUTOMATIC CARD STITCHER

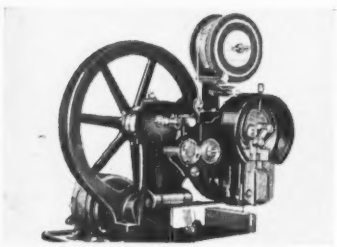
This machine automatically feeds a card to stitching position, where a rubber band, string or other object is held in position as stitch is driven. Machine is available for various sizes and shapes of cards, and for any type of staple suitable for the work.



LATHAM BELT LOOP STITCHER

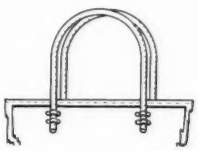
This machine is used for stitching belt loops. It is adjustable for all sizes of loops, and as many as 50 per minute may be stitched. Stitching belt loops on this machine is more economical than any other method of fastening, and the loop is securely held.





LATHAM SHOPPING BAG STITCHER

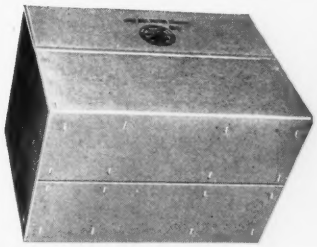
This machine equipped with special stitching mechanism, is used for stitching handles to paper shopping bags. Bag and handle are held in correct position and stitched with a special loop stitch as shown in illustration. Users prefer this model for bag handle stitching.



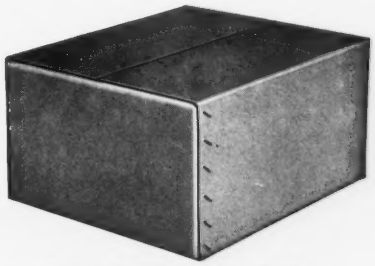
DEXTER FOLDER COMPANY—28 West Twenty-third Street, New York

SOME TYPES OF BOXES STITCHED ON BLISS, BOSTON AND LATHAM STITCHERS

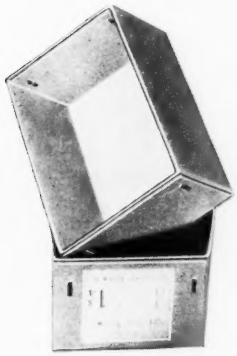
Regular Slotted Container, side stitched on RSC Stitcher



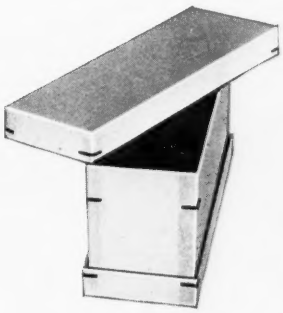
Regular Slotted Container, showing bottom stitched on Bottom Stitcher



Regular Slotted Container, showing top stitched on Top Sealing Stitcher

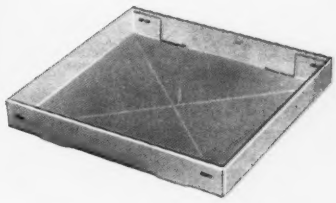


Hardware Box, stitched on Box Stitcher

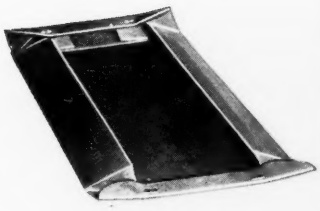


Hardware Box, stitched on Corner Stitcher

Hardware Box, stitched on Box Stitcher

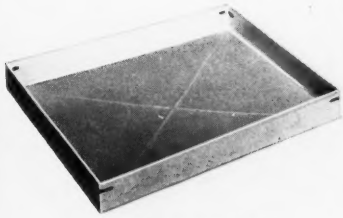


Caddy Container Lid, stitched on Box Stitcher



Folding Suit Box, stitched on Box Stitcher

Display Box, stitched on Box Stitcher



Caddy Container Lid, stitched on Corner Stitcher

Shopping Bag, stitched on Box Stitcher

1. Staple through corrugated box board using solid clinchers.

2. Staple through solid fibre box board using solid clinchers.

3. Staple through solid paper, using moving clincher.

4. Staple through soft material, using "pass by" solid clincher.

5. Raised staple to allow fixed space under crown.

6. Staple with one leg longer and turned out for fastening.

7. Ring type staple to bind end of rope, etc.

8. Stitching two materials together without clinching staple.

DEXTER FOLDER COMPANY—28 West Twenty-third Street, New York

BLISS STITCHER HEAD

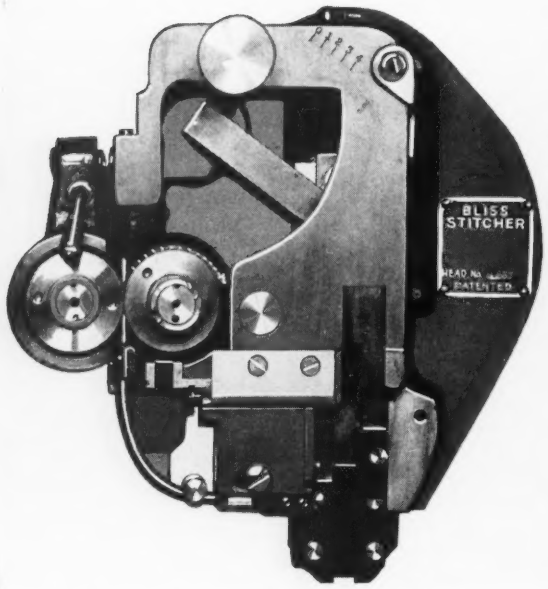


Fig. 20. Bliss Heavy Duty Stitcher Head (Section)

The Bliss Heavy Duty Stitcher Head is used on all types of Bliss Stitchers, except the Bliss Portable Stitcher. It is the fastest, strongest, most durable and dependable Box Stitcher Head built.

OPERATION.

At each operation wire is fed from the spool, cut to a predetermined length, formed into a stitch and the latter driven through the material and clinched. This work is performed at speeds up to 500 operations (500 stitches) per minute.

CONSTRUCTION.

Because of the heavy wire used for box stitching, and the high operating speed, only the best and most durable materials will withstand the wear and tear to which the Bliss Stitcher Head is subjected. Therefore the cutting, forming, driving and other moving parts are made of hardened tool steel which long experience has proved to be the very best for the purpose and reduces maintenance cost to a minimum.

Extra large working surfaces of cams, long bearing surfaces for former slides, specially hardened knives which can be reground many times, and numerous other engineering features, all contribute to the successful operation and long service of the Bliss Stitcher Head.

The head is easily detachable for service. The wide clearance of 1⅝" between clincher head and anvil facilitates insertion of heavy work and aids visibility at point of stitching.

SPECIFICATIONS. One adjustment changes the length of wire drawn for varying thicknesses of stock to be stitched.

Interchangeable parts may be furnished for driving the various sizes of wire, at nominal charge.

Standard widths of crown, ⅜" and 7/16". The head may also be equipped to drive stitches of ¼", ½", 9/16", ¾", 1⅛" and 1⅜".

A special sharp stitch cutting block may be furnished to give a pointed stitch for use with corrugated board.

PARTS, WIRE, AND MECHANICAL SERVICE

All Dexter Offices carry replacement parts for all types of Bliss, Boston and Latham Wire Stitching machines, and are prepared to render prompt and efficient service on any of these makes of stitchers.

A stock of all the usual sizes of box stay and bookbinders' wire is available at all offices for prompt shipment.

Your orders for parts, service, rebuilding and wire are solicited.

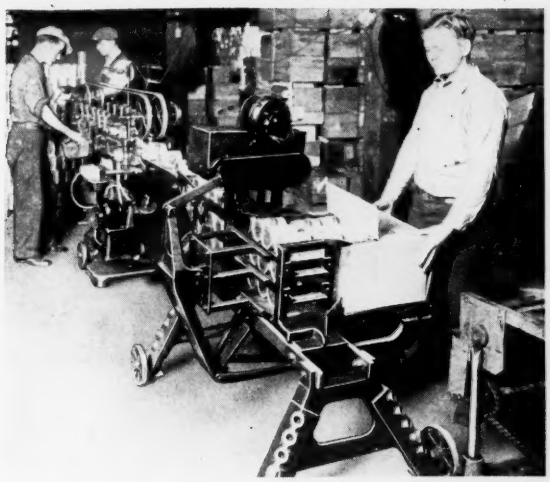
DEXTER ENGINEERING SERVICE

Every manufacturer has some condition in his shipping department that may be improved or changed to his advantage either for greater efficiency or for economy.

The Dexter Folder Company maintains a corps of engineers who have had extensive experience in packaging and preparing for shipment a great variety of products.

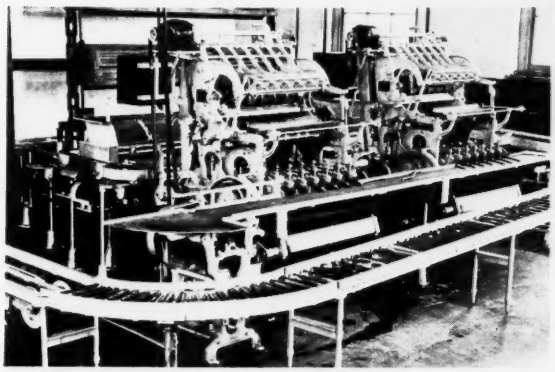
The services of our organization are available, without obligation to you, for making a survey of your packing and shipping departments to determine the most economical methods of handling and protecting your goods while in storage and transit—when they are no longer under your control.

DEXTER FOLDER COMPANY—28 West Twenty-third Street, New York

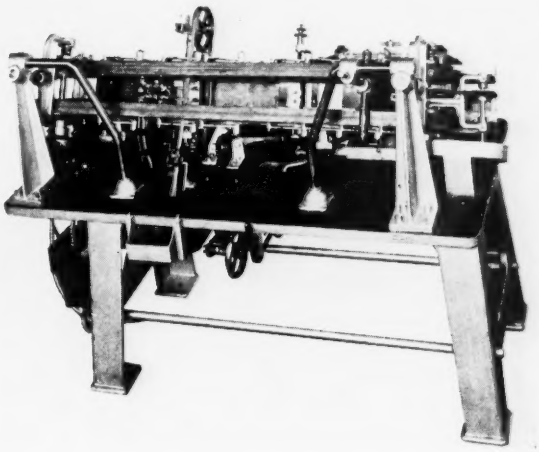


Standard type can labeler (rear) with automatic casing unit in foreground. Courtesy, Burt Machine Company

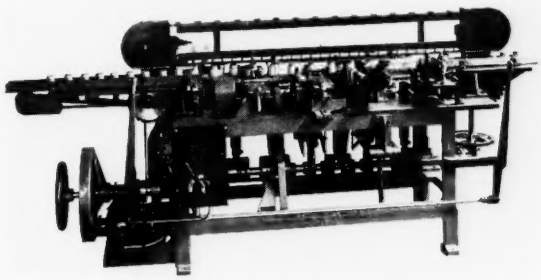
Full automatic rotary labeling units (at left) are direct connected to subsequent packaging equipment in this brewing plant. Courtesy of Economic Machinery Company



Six wide automatic multiple labeling units installed in brewing plant. Courtesy of Edward Ermold Company



Unit for applying labels to cartons and cans while placed in oblique position. Courtesy of Burt Machine Company



Straightaway duplex labeling unit for products packed in bottles and jars. Courtesy of Pneumatic Scale Corporation

put from the labeler without applying the glued label in less time. It requires time to apply glue to the label and more time to make the label adhere properly to the container, therefore the slow running duplex labeler can do a better job than the single machine speeded up which seemingly throws the label at the package without sufficient time to apply it properly.

No less important is the perfection of another automatic labeling machine for round bottles where the name of the product appears in raised lettering on the bottle. In such instances it is an absolute necessity to "spot" the label in a determined position in order that every package will be labeled and look alike with respect to the lettering in the glass. Previously this was done by hand or on semi-automatic machines where the best was a good guess at the proper spot for the label. Some manufacturers have discarded their trade mark on the bottle because of the inconvenience in placing the label accurately and automatically. Examples of this spot labeling are to be found in the "Vaseline" and "Listerine" bottles. Such bottles can now be adapted where the name of the product is in the glass to tell what it is

after the label is destroyed, and they can be properly labeled by fully automatic machines.

Regarding the quality of the labeling done by hand and by machine, manufacturers may say that no machine can do this work well enough. However, such objections can be answered by referring to the labeling of cigar boxes which are perhaps some of the best labeled packages in our show cases. The labels are beautiful, of many colors, embossed and cut neatly and accurately. Until recently they were applied by hand, which almost ruined their good appearance and lustre. Because paste was used instead of glue it soaked the label and destroyed the colors. Then it was placed by hand and wiped on with a rag which killed the embossing and smeared the colors. Today the automatic machine applies thin glue quickly, applies the label at once and places it even more accurately than the hand. The result is that the moisture in the glue does not have time to penetrate the label, therefore the embossing and colors remain just as the printer made them.

Incidentally, it might be said here that 95 per cent of a cigar box can be made on automatic machines which insure their uniform shape and size just as the machine-made bottle is uniform, which requisite is most important for machine handling. Unless uniformity in size and shape is obtained, efficient labeling is impossible.

Can labeler. Where full length labels which overlap are applied to round containers, the universally known automatic round package labeler is in general use, one type of machine being for hermetically sealed, friction lid and screw top containers, while another is for slip cover containers. One of the other types of machine are employed in the food packing and kindred industries, including paints and specialties and the other in most of the coffee plants as well as several salt factories. Cans with ears such as large packages of paint are also automatically labeled through utilizing a full length label which overlaps and is died out to encircle the ears, thus supplanting the front and back label formerly used. Glass containers have also come within the scope of the automatic round container labeler, nationally known products like Sal Hepatica being labeled on this type of machine as well as glass containers of insecticides, toilet preparations, fruit juices, etc.

This type of machine can operate at a speed of from 150 to 250 or more packages per minute because of the fact that the packages are rolled through and a comparatively simple and speedy form of mechanism can thus be utilized, hence the automatic round package type of labeler is the speediest mechanical medium available.

Modern factory practice has demonstrated the importance of machine production and that manufacturer is wise who leaves no stone unturned to place all of his manufacturing on a machine basis. The use of machinery in the finishing or packing department is as important as in the actual processes of manufacture, and the manufacturer who extends his machine methods to these departments is bound to profit more than the one who does not take advantage of the equipment offered.

In general, a labeling machine can be equipped with attachments to handle a manufacturer's package without alterations but occasionally a minor change in container or label will simplify the work and enable the labeling to be done with a minimum of care. Where new packages or labels are designed it is well for the manufacturer to bear in mind a few simple facts that will enable him to favor the labeling machine and to operate under the most ideal conditions. The best labels are made from thin paper, soft and comparatively light in weight so that they will conform easily to the shape of the container. The surface of the container should be such that the label will naturally follow the contour without wrinkling. A spherical surface is impossible, for the label must curve in two directions and will not lie smooth. Where hexagonal, octagonal or similar containers are used the size of the label should be such that the edges of the label should extend well over the corners of the container and on the flat sides to prevent the edges of the label from becoming loose after the label had been wiped on and the container removed from the machine. The observance of these rules will make for efficient practice in the labeling of packages.

SHIPPING CONTAINER SEALING EQUIPMENT

BY W. D. KIMBALL

VAST IMPROVEMENT has been made in the methods and equipment employed in the packing and sealing of solid fibre and corrugated paper shipping cases in the last decade. During that time methods employed in sealing cases have passed through several distinct phases.

When paper cases first came into general use, it was almost uniformly the practice to make up or glue the bottoms of the containers before the goods to be shipped were packed therein. As a rule this was accomplished by applying adhesive to the inside bottom flaps, folding the outer flaps over and then placing weights on the inside of the case until the bond was formed. In many instances forms were provided over which the case to be made up was placed, adhesive applied to the

ROTARY
STRAIGHT LINE
GANG TYPE

HORIX

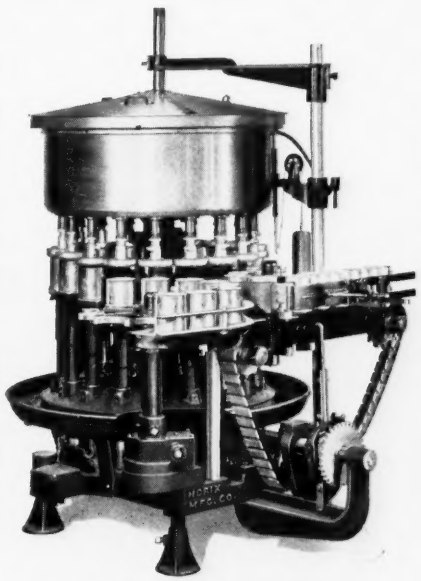
FULLY AUTOMATIC
SEMI-AUTOMATIC
HAND OPERATED

-HIGH-SPEED-FILLING-MACHINES-

FOR ALL KINDS OF STILL LIQUIDS—For Bottles or Cans, Any Size or Shape.

To increase output, reduce production cost, eliminate waste—our 30 years' experience is at your service. Repeat orders tell the story of sustained satisfaction in Horix-Haller Filling Equipment.

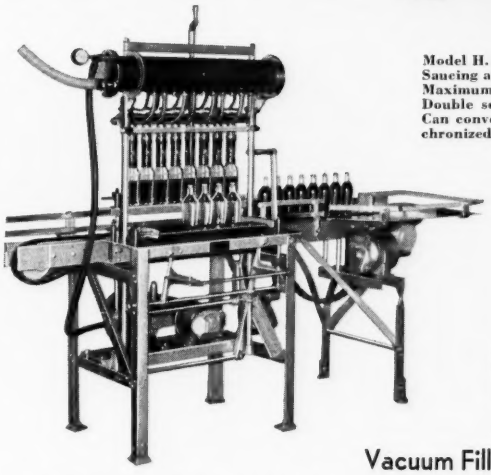
An inquiry costs nothing but may pay big dividends.



Model H. S. 18 Tube. For filling Soups, and Saucing and Syruping cans of different sizes. Maximum Capacity 200 Cans per Minute. Double seamer connects to disc discharge. Can conveyor connects to intake feed. Synchronized drive from closing machine, if desired.

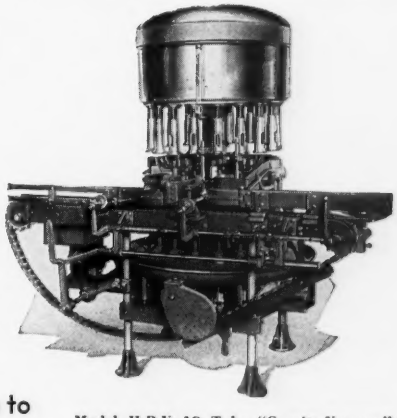
We illustrate only a few models. Many millions of containers of the world famous brands of catsup, chili-sauce, tomato juice, vinegar, and all kinds of liquid products are bottled and canned daily on Horix-Haller fillers.

We also make a complete line of conveyors, both Chain type and Worktable belt type.



The illustration shows our Model N-V Gravity-Vacuum Straight Line Filler with only a short discharge conveyor. Filling range—any size or shape bottle from miniatures to gallons. Capacity 40 to 50 pints or 24 to 30 quarts per minute.

HORIX FILLERS POSSESS MERIT IN EVERY PHASE OF PRODUCTION.



Model H-B-V 18 Tube "Gravity-Vacuum" type with Automatic Feed and Discharge. Filling range 4 oz. bottles to quarts. 40 to 160 per minute, depending on size and style. For Bottling Wines, Vinegar, Whisky, Gin, Cordials, Pharmaceutical Liquids, Tonics, Etc.

SPECIAL FEATURES: Furnished for Straight Gravity or Gravity-Vacuum Filling. No loss of liquid due to defective bottles. No drip from filling tubes. Easily and quickly changed from one size bottle to another. Always fill to desired uniform predetermined height. High continuous speed. No bottle breakage. All parts easily accessible. Simple, sanitary and easy to clean. Can be operated by unskilled labor. Designed for long life. Operate efficiently with all standard Washers, Corkers and Labelers.

HORIX MANUFACTURING COMPANY

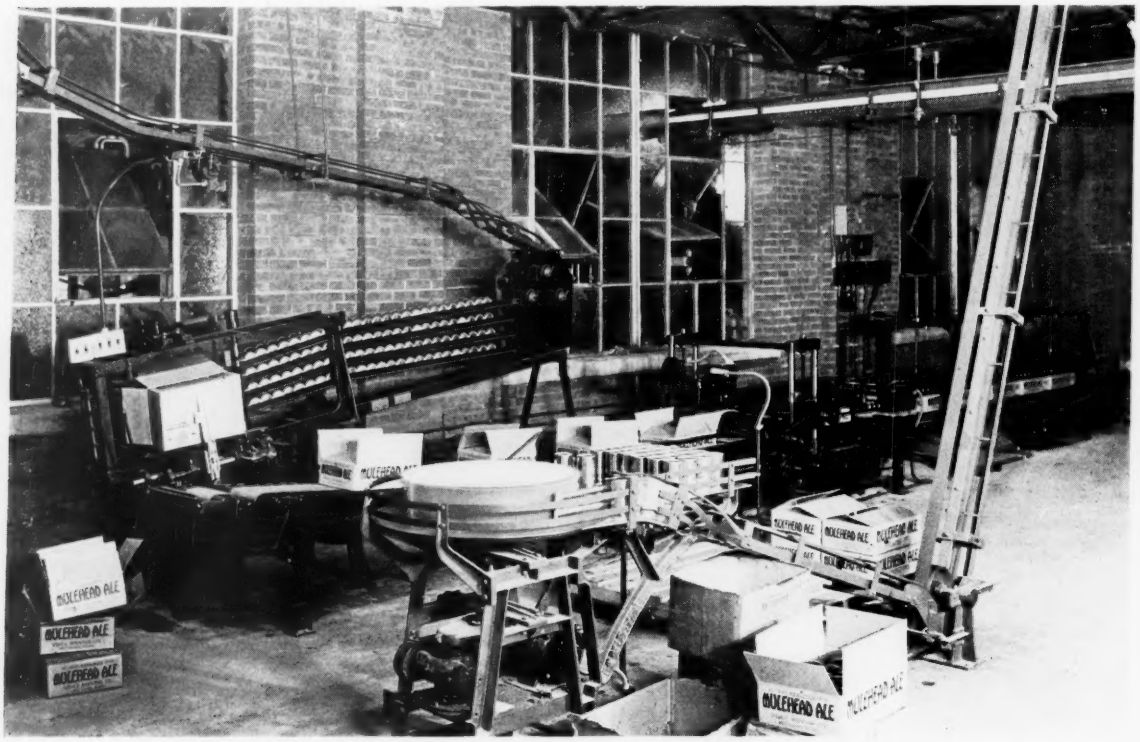
Corliss Station, Pittsburgh, Pa.

flaps and pressure brought to bear on the flaps over the forms by means of a lever and toggle-point. All this required the services of an operator to make up the bottoms of the cases before they were packed, and still another operator was required to seal the tops of the cases after the goods were packed therein. This last operation as a rule was accomplished by applying adhesive to the inner flaps, folding the outer flaps in place and then piling the cases one on top of the other on trucks or on the floor, the weight of the goods in the cases being the only pressure exerted to effect the bond.

It gradually became apparent that it was unnecessary to make up the bottoms of the cases before packing the contents therein, and to supply the demand for a machine to meet this requirement, the manufacturers of sealing equipment evolved a simple drying or compression unit consisting of a top and bottom roller bed, the rollers in the top bed being fitted with compression springs which caused constant pressure on the case as it passed through the machine.

The operation of this equipment required that the operator fold under the bottom flaps in the position which they would occupy when sealed, and before applying any adhesive the goods were packed in the case, the top flaps were folded over, adhesive applied and the case turned over with its bottom up. Then the operation of gluing was repeated on the other end of the case and the box inserted in the machine. This was a long step forward as compared with the original method of making up the bottoms of the cases, as it required but one person to operate the machine, resulting in a saving of 50 per cent of the labor cost.

The next logical step was the automatic gluing device for the application of adhesive to both the top and bottom flaps of the case with the goods already packed therein. With the advent of the automatic gluing device used in connection with the compression unit, the demand for automatic gluing and sealing units was greatly increased because of the tremendous saving in labor cost, and because through the use of automatic means, cases were sealed in a more uniform and satisfactory manner than when the human element was employed.



At right is a standard case sealer in which means are provided for squaring up the case and bringing the abutting flaps close together to form a tight longitudinal seam. At left is a high speed can caser which automatically collects the cans in a can forming enclosure and pushes a full load into the corrugated or fibre container. The illustration is typical of the equipment lines now being installed by breweries. Photo courtesy of Standard-Knapp Corporation

The manufacturers of automatic equipment have constantly had in mind the thought that it was up to the machine to properly seal all cases, irrespective of the slight irregularities that occur in the manufacture of paper shipping cases. It is only reasonable to expect that such irregularities may exist for there is no assurance as to exactly where the board will break at the score line. The score line itself, is, as a rule, $\frac{3}{8}$ in. to $\frac{1}{2}$ in. wide, and if the hinging of the flap takes place exactly in the center of the score line, then the flaps will come together without the need of the lateral pressure. But if the break occurs near the top edge of the score line, the outside flaps will be short and some rolling pressure on the case is required to bring these flaps

One of the finest packages of all time

THE SET-UP PAPER BOX

Ask Your BOXMAKER

STOKES & SMITH Co

PAPER BOX MACHINERY — PACKAGING MACHINERY

Summerdale Ave., near Roosevelt Boulevard

Philadelphia, U. S. A.

Branch Offices: 29 Gerrard Road, London, E. C. 1

together to make close abutting seams. Manufacturers of automatic sealing equipment have furnished appliances which take care of these varied conditions.

In the past few years there has been a demand for what is known as strip or spot sealing in instances where cases are shipped to destination and then opened for repacking or resorting. To supply this want, manufacturers of sealing equipment have developed machines which lay narrow strips of adhesive over the flaps that are sufficient to seal the case and hold it in rigid rectangular form, but which make it possible to open the case without destroying the flaps so that the box can be resealed and used for the reshipment of goods.

A long felt want was filled when the machine manufacturers supplied automatic sealing equipment with a power-driven adjustment to effect the setting of the machine from one size case to another, as there are many manufacturers who have large runs of cases with many different sizes, and it was necessary to supply a means for making practically instantaneous change from one size to another in order not to curtail production. Such machines have been developed and are used by many manufacturers whose cases vary widely in size.

There has been a constant demand in recent years for an increase of speed in the operation of sealing equipment, due to the speeding up of manufacturing lines, and the automatic sealing machines which are now manufactured in many instances have a capacity of as high as thirty to forty cases per minute, and they attain this speed without serious strain or wear and tear on the equipment involved.

There are practically no reciprocating parts in the modern case sealing equipment, all motions being rotary, and shaft speeds, even in the higher capacity machines, are comparatively slow.

One of the difficulties which the manufacturers of sealing equipment encountered when the automatic machinery was first evolved, was to find space in the manufacturer's plant of sufficient dimensions to permit of the installation of the machines in question. It is a fact that for a given number of cases there is not as much space required for an automatic sealing unit as would be required to seal the same number of cases by hand, but it has been evident that insufficient thought was given in the planning of certain plants, to provide the proper amount of space to carry on this operation.

This condition has largely been eliminated as plant engineers and industrial architects have come to consider sealing equipment as absolutely necessary to the successful handling of the product and are giving more thought at this time to the providing of sufficient space at the proper point for the sealing installation.

METHODS OF ASSEMBLY IN CARTONING MACHINES

BY CHARLES L. BARR

MANUFACTURERS of cartoning machines have been concentrating their talent to develop greater speed and greater efficiency for several years. This concentration of attention has produced the smooth-running, highly efficient cartoning machines that all prospective purchasers of this type of equipment have come to take as a matter of course. Speeds of 150 per minute have become rather common, and 200 per minute and even higher in some few cases is an actual fact.

While improvement in speed and efficiency has been the chief objective, this could only be achieved through general refinement in design—a careful and intelligent study of each element and mechanism and motion. As is invariably the case, the incidental improvements are perhaps of greater interest than the principal objective. These incidental improvements—quietness in operation that contributes so materially to employee efficiency, and smoothness that adds years to useful life, greatly reducing upkeep cost—are tremendously important contributions although not quite as spectacular as the progress that has been made in the direction of speed.

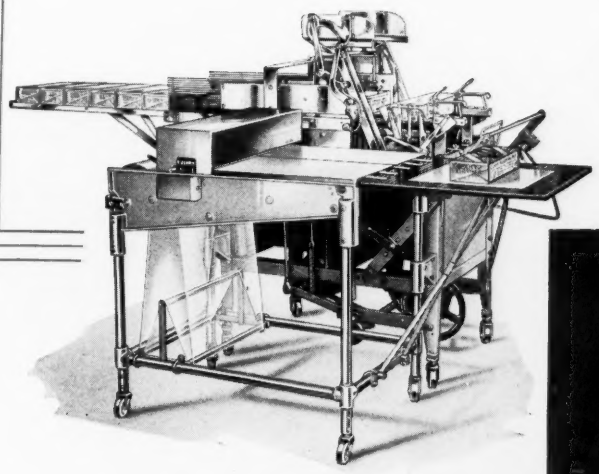
It seems now, however, that purchasers of cartoning machines find available machines capable of greater speed than they are able to use and, as a consequence, manufacturers have turned their design attention to the matter of adapting their machines to meet unusual conditions—to produce the out-of-the-ordinary packages or to operate under out-of-the-ordinary conditions.

The products shown in the illustration, together with the following descriptions of the packages and their method of assembly in cartoning machines, strikingly illustrate what has been accomplished.

"*Beechies.*" Candy coated chewing gum tablets dumped in a hopper are automatically fed and counted out in groups of twelve. Transparent cellulose window cartons are fed from a magazine, opened up, twelve tablets inserted and the carton closed by tucking the end flaps.

"*Pro-phy-lac-tic*" *Tooth Brushes.* The unusual feature of this package is the provision made for showing the

MILLER Wrapping Machines for Packages and Bottles



Automatic Wrapping with least Investment

Flexible wrapping equipment, thoroughly dependable, fast, moderately priced has gained the name "Miller" the confidence of a nation proud of its manufacturing methods, keenly alive to production costs.

Miller Offers:

Miller Wrapping Machine (Packages)

This machine wraps five to eight thousand packages an eight hour day. It is highly adjustable (see variety of packages illustrated), taking less than 5 minutes to change over.

Miller Wrapping Machine (Bottles)

Wraps a variety of bottles, round excepted. Same machine takes several sizes. Same speed as on packages.

Miller Sheeting Attachment

Attaches to either package or bottle wrapping machine. Is synchronized to hand single sheet at a time, cut to size from roll, to operator.

Electric Eye can be furnished for printed rolls.

MILLER WRAPPING & SEALING MACHINE CO.
14 South Clinton Street, Chicago

brush itself through the carton. The cartoning machine manufacturer found it possible to adapt machine to carton at a high rate of speed.

Rockwood Baking Chocolate. The machine automatically wraps each half-pound cake of chocolate in dry waxed wrapper, cut from a roll, and then automatically cartons it in the characteristic bevel-edge carton. Work is done at a high rate of speed.

"Red Cross" Gauze Bandages. Machines are unique in that they are adjustable to handle in some cases three packages and in other cases as many as five packages. Adjustments are so standardized and plainly marked and inserting film rolls so wrapped and sealed into the cartons. Means are also provided on cartoning machine to automatically print on the carton the date before which the film should be used.

La Rosa Macaroni Products. The cartoning machine used is arranged with a long intake conveyor consisting of a series of metal pockets. Each pocket is lined with a dry wax paper wrapper automatically cut from a roll by the machine. Along this conveyor, operators weigh out the proper amount of product and place the proper amount in each pocket of the conveyor that has been lined with the dry wax paper wrapping material. As

Cartoning methods used in the assembly of these packages are described in the accompanying text

that to change from handling one size to another size requires five to ten minutes.

"Mum." One of the latest type, highest speed, machines, feeds the tins automatically, holds a circular and inserts tins and circulars into tuck cartons. Speed, 150 packages per minute.

V620 Kodak Film. The new type high speed photographic film requires careful protection from moisture. One of the latest type high speed cartoning machines is being arranged with means for automatically wrapping each film roll in a wrapping material that is highly resistant to moisture penetration, sealing this wrapper

this conveyor carrying the material progresses forward, the contents of each pocket are wrapped, and then cartons are fed from a magazine, the wrapped contents of each pocket inserted into the cartons and the cartons closed by securely gluing both end flaps.

Licorice "Cigarettes." Long tubes of product are fed into machine by operator. The machine cuts these tubes, or sticks into the proper length, approximately 2¾ in., discards the scrap and counts out the proper number of cigarettes which are placed in cartons. Cartons are closed by tucking the end flaps.

Licorice "Snaps." A new type, high speed, carton-

MODERN and PROFITABLE
PACKAGING MACHINERY

Semi and Automatic

CARTON SEALERS
NET & GROSS WEIGHERS
FILLING MACHINES
AUGER PACKERS

SPECIFICATIONS . . .

Cartons —6 to 60 filled and sealed per minute
Cans —20 to 120 filled per minute
Bags —20 to 60 filled per minute
Minimum—1/40-oz.
Maximum—25 lbs.

CONTAINERS . . . MATERIALS

Powders, Granules, Crystals, Flakes and other dry materials filled into Cartons, Cans, Bottles, Bags and Envelopes.

TRIANGLE PACKAGE MACHINERY COMPANY

906-910 NORTH SPAULDING AVENUE, CHICAGO

50 Church St., New York
Box 1235, Atlanta
316 Clay St., San Francisco
Foreign Office—44 Whitehall St., New York

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SEALTITE UNI-WRA

The advantages are definite and easily proven --

1. Affords unique protection
2. Maintains efficacy
3. Prevents breakage
4. Provides a convenient package
5. Prevents substitution.

Yet Costs Less! created by the organization which has always specialized in packaging and packaging machinery for the pharmaceutical industry.

We not only build special machinery to order, but have for sale such machines as: The Universal Tablet Counting Machine. . . . The Universal Transparent Tube Machine. . . And The Hypodermic Tablet Filling Machine.

A complete book presenting the facilities available to you, and discussing the scope of our service will be sent on request.

Sealtite Uni-Wrap is a method for wrapping oval pills and capsules as well as tablets in air-tight, moisture-proof pockets—formed by welding two sheets of transparent moisture-proof cellulose around each individual unit.

★ THE UNIQUE PHARMACEUTICAL PACKAGING SERVICE WHICH IS **THE I**

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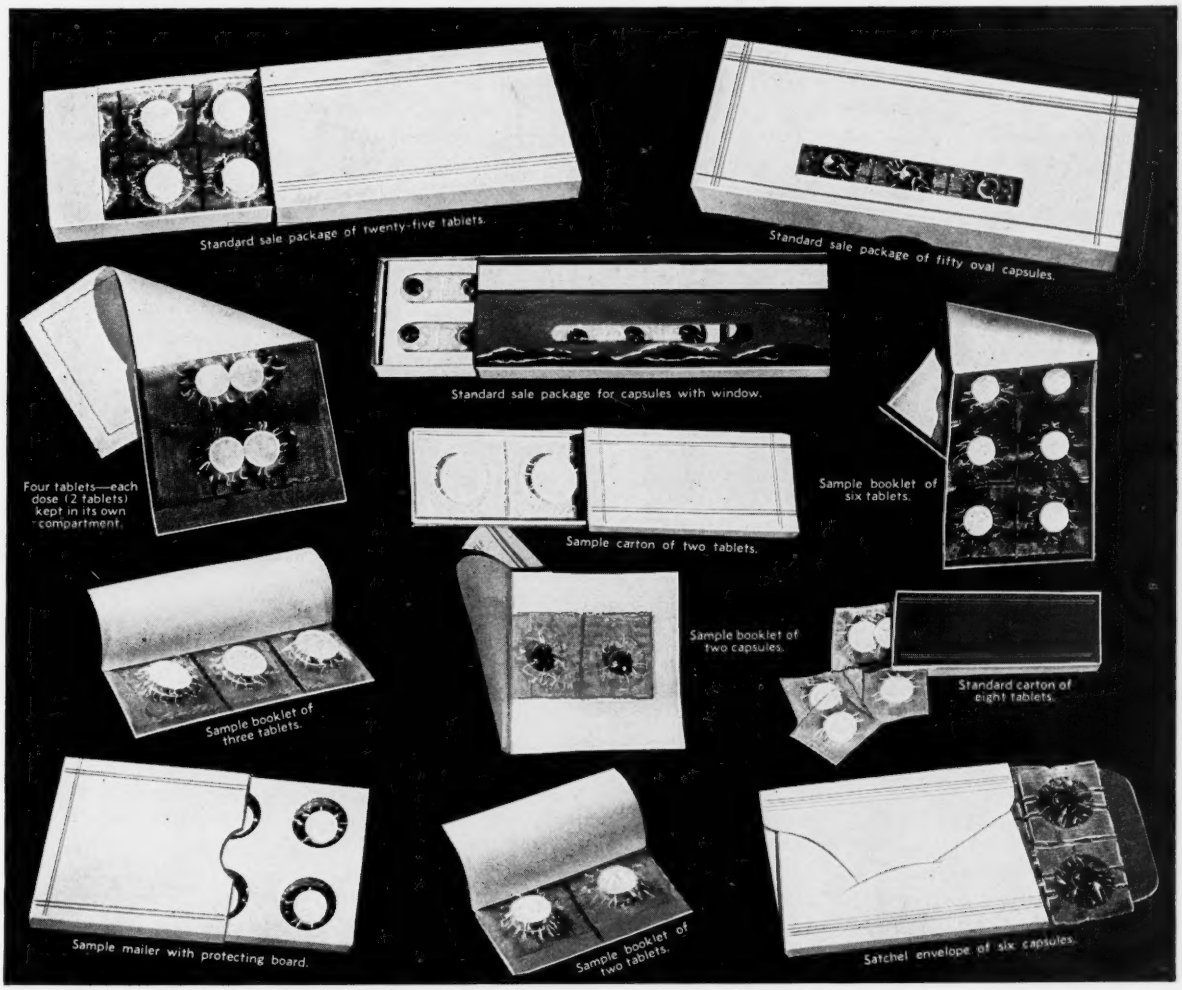
RAP

THE PRINCIPLE OF UNIT WRAPPING

Inimitable


Standard sale package of twenty-five tablets.
Standard sale package of fifty oval capsules.
Standard sale package for capsules with window.
Four tablets—each dose (2 tablets) kept in its own compartment.
Sample booklet of six tablets.
Sample carton of two tablets.
Sample booklet of two capsules.
Sample booklet of three tablets.
Standard carton of eight tablets.
Sample mailer with protecting board.
Sample booklet of two tablets.
Satchel envelope of six capsules.

E IVERS-LEE COMPANY

215 CENTRAL AVENUE NEWARK, NEW JERSEY

XUM

ing machine recently developed handles this product, and is adaptable to the automatic cartoning of similar loose products. The cartons are fed from the magazine, formed up, the bottom closed, and then placed in a conveyor that carries them along in a vertical position rather than in the usual horizontal position. The contents of the carton are automatically measured out and dumped into the carton as it progresses along in the conveyor, then the top of the carton is closed by tucking in the flap, thus completing the package.

Grove Proprietary Medicines. Machine is arranged to carton a number of different products. One of these products is sold in a collapsible tube and the others in bottles. The bottles are fed in automatically from the ordinary straight line labeling machine, tipped over in a horizontal position, inserted into the conveyor pockets, circular and bottle inserted into the carton with circular over the top.

Franklin Baker Shredded Coconut. A condition to be eliminated in the packaging of this product is loss of moisture. Coconut is weighed out and placed in glassine paper packets similar to the packets used for certain types of tobacco. These packets are automatically carried into the cartoning machine on a conveyor belt. The cartoning machine is equipped with means for cutting a waxed wrapper from a roll, wrapping the packet in a special manner, sealing this wrapper; feeding a carton from its magazine, inserting the wrapped packet and closing the carton by gluing the end flaps. Machine is equipped with means to automatically stamp date.

"Encore" Egg Noodles. The cartoning machine is equipped with a long conveyor made up of metal pockets. Each pocket is lined with a dry waxed paper wrapper, automatically cut from a roll. The product is weighed out and dumped into lined pockets, after which the wrapping is completed; carton fed from a magazine, product inserted, carton closed by gluing and date stamped on carton.

Pond's Face Cream Tubes. One of the latest types of high speed, highly efficient cartoning machines produces this package. Circular is fed from a magazine, folded properly, inserted with tube into carton and carton closed by tucking end flaps at 150 per minute.

McKesson & Robbins Milk of Magnesia. Adjustable machine, both 8-oz. and 16-oz. sizes being produced on the same line. Unusually large circular fed from magazine, folded and inserted with bottles into carton, which is closed by tucking end flaps. Bottles are brought into the machine upright from previous operation.

Campana's Italian Balm. Adjustable machine for 35- and 60-cent sizes. Bottles brought in upright, without handling, from last previous operation. Circulars fed from magazine, properly folded, inserted into cartons, which are closed by tucking.

"Good Luck" Rings. Rubber jar rings are stacked in magazines from which they are fed automatically in groups of twelve. Cartons are fed from their magazine, expanded, groups of twelve rings inserted and cartons closed at a speed of 120 per minute.

"Magic Wand Egg Dye." A wooden forked paddle, the forked ends of which are impregnated with a wax coloring material for use in dyeing Easter eggs, is inserted into the carton along with two pieces of advertising material. The carton is stamped with the date of production in code, and then closed by gluing the end flaps. Speed, 125 per minute.

"Sample Beechies." Candy coated chewing gum tablets are dumped into a hopper, counted out in groups of two, carton fed from magazine and the groups of two pieces of gum placed in the carton, and the carton is closed by gluing the bottom end flap and tucking the top flap, assuring a securely formed package that is easily accessible. Speed, 130 per minute.

Dr. Lyons' Tooth Powder. Two sizes are produced on one adjustable cartoner, 10c size on a non-adjustable cartoner, both of the latest high speed type. Tins are taken directly from previous operation, standing upright on intake belt. A corrugated protector is fed from magazine, wrapped around a tin; circular is fed from magazine, folded, placed over top of tin with ends of circular extending down the sides outside the corrugated protector; and this assembly inserted into the ordinary reverse tuck carton.

Colgate's Cashmere Bouquet Toilet Soap. Bars of soap are placed in pockets of an intake conveyor. Plain paper wrapper is cut from a roll and a bar of soap is wrapped. A specially designed die cut and scored carton board blank is fed from a magazine and formed over a mandrel into a container with one open end having flaps for folding. Wrapped bar of soap is inserted, flaps are folded in and glued. Package is then transferred to a wrapping machine that places the wrapper on it. Speed, over 100 packages per minute.

Bromo-Seltzer. Three sizes are handled on latest type non-adjustable high speed machines. Bottles are taken directly from vertical belts that bring them from the floor above. A circular is fed from a magazine and folded; bottle with circular over its top inserted into carton and carton closed by gluing end flaps.

Fletcher's Castoria. A specially arranged cartoner of the newest improved type cartons the product, also places a paper band around each carton. Cartons are taken into the machine directly from the last operation. A corrugated protector is fed from magazine, placed around bottle; a circular is taken from magazine, folded, and assembly inserted into carton which is closed by gluing end flaps. Package is immediately transferred into banding mechanism for applying band. Operating speed, 120 per minute.

Kerr Mason Lids—Phoenix Metal Cap Co.—Cartoner of latest type has special feeding mechanism for transferring stacks of lids into conveyor pockets. Stacks of lids are brought to feeding mechanism by conveyor belt, five stacks across. Feeding mechanism takes them directly from this conveyor and transfers them, five stacks at a time, into pockets. Machine throws out any stack containing less than twelve lids and does not feed carton for any empty pocket. Lids are inserted into cartons and cartons are closed by tucking flaps. Operating speed, 150 cartons per minute.

JOHNSON AUTOMATIC SEALER CO., LTD.

BATTLE CREEK, MICH.

New York Office: A. H. Axberg, 30 Church St., New York City
Pacific Coast: W. J. Holder, 3730 Scott St., San Francisco, Calif.
London, Eng.; Messrs. C. S. du Mont., Ltd., Windsor House, Victoria St.
Chicago Office: H. L. Davis, Room 241, 80 E. Jackson Blvd., Chicago, Ill.

PRODUCTS

All types of automatic packaging and wrapping machinery, including the following ten standard Johnson Machines and adaptations or combinations of them:

1. Carton Feeder
2. Bottom Sealer
3. Liner (Paper — All Types)
4. Gross & Net Weight Scales
5. Liner Triple Fold Closure
6. Carton Top Tucker
7. Carton Top Sealer
8. Wrapper, Wax, Plain
9. Wrapper, Located Printed
10. Wrapper, Transparent Cellulose

RESOURCEFUL ENGINEERING SERVICE

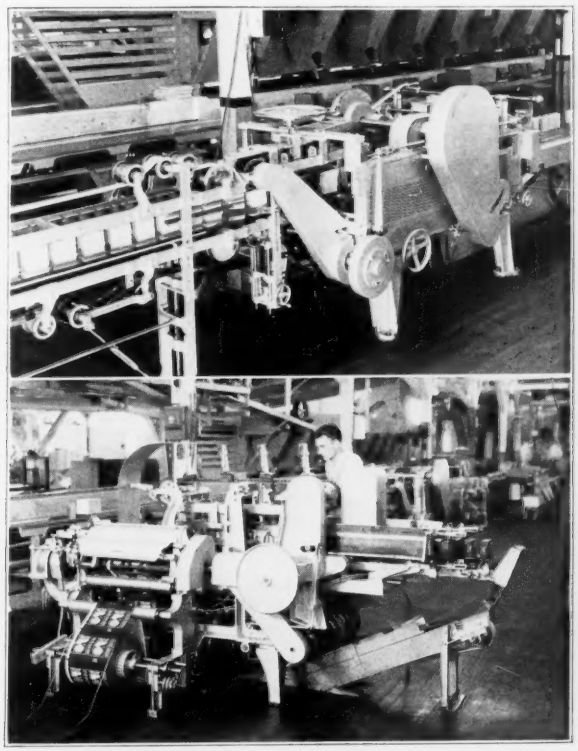
Johnson Engineers have been first to solve many of the toughest problems of the automatic packaging industry. The Johnson motto is "if it can be wrapped by hand, it can be packaged on a Johnson Machine." To be sure that you are getting the most effective and efficient equipment —engineered exactly to the particular job and with new developments where standard units are not exactly suitable—send your inquiries to us.

HOW DEL MONTE SEEDLESS RAISINS ARE WRAPPED

This typical installation shows Johnson Machines at work packaging raisins, from the collapsed carton to the finished wax-wrapped box. Machines designated by numbers 1, 2, 7 and 9 above are employed. Because a product like raisins requires an approximate fill, later checked by girls with scales, the automatic line is interrupted for this operation. After the weight of the cartons is checked they pass through a Johnson Top Sealer, where top flaps are glued and folded down, making the carton itself tight. Then the Johnson Located Panel Design Wrapper wraps the cartons. As the printed waxed paper unrolls from its spindle, the Electric Eye "sees" printed guide marks, interrupts a circuit, and a knife cuts off one label from the roll. The wrapper is automatically registered and folded around the carton, each panel of the printed design in correct position.

The Del Monte Wax-Wrap-Pak of Seedless Raisins . . . Completely sealed . . . resistant to moisture and drying . . . and completely proof against insect infestation.

Many products have passed through the phases of low visibility illustrated by the Sal Hepatica package above. First, (at left) the display material was printed direct on the rough cardboard. Next (center) the wise precaution of overall wax wrapping entailed however some loss of visibility which at the time was necessary. But finally by the registered panel design wrapping of the Johnson Machine a new sparkle and high visibility were secured.



(Upper) After filling and check-weighing, the cartons pass through the carton sealing machine. (Lower) The wrapping machine, as the continuous roll of wrappers unwinds from the spindle in the foreground, an "electric eye" closes a circuit as the dark marks seen on the edge of the roll pass in front of it. A knife cuts off one wrapper which is then folded around the carton. Completed packages shown leaving the machine at right.

Dixie Oleomargarine. One pound prints of oleomargarine are wrapped and cartoned on a newly designed machine at a higher rate of speed than ever before accomplished. Wrapper can be fed from a magazine or cut from roll. Print can be wrapped in one sheet of parchment or in double wrapper with inner wrapper moistened before being applied to the print. Prints of oleomargarine or butter are brought into machine on a transport intake. Top of transport that comes in contact with print of oleomargarine is wood. Side rails on which prints rest between forward motions are also of wood. Wrapper is fed from magazine (or cut from roll), print is removed from intake and placed in pocket on edge of turret, with wrapper partially around it. Wrapping of print is completed as turret moves around. Carton is pulled down from magazine by vacuum and formed, U-shaped, in pocket of a second turret. At the next position of turret wheel, color insert is fed from magazine by vacuum and dropped into carton. At next position, wrapped print is inserted into carton through open side of carton. The first and last panels of carton are then folded down on print, side flaps of carton folded in, carton closed by tucking the end flaps.

Du Pont's Electric Blasting Caps. Machine feeds flat die cut and scored carton blank of special design from magazine. Blank is formed and placed in a pocket of a moving conveyor with one side of carton open. While in this pocket an operator places a blasting cap in the carton. Caps are delivered to the operator with the lead wires wound in such a way that caps can be readily inserted. Machine then folds down the open panels of carton and glues them. A distinctive feature of this package is two perforated lines laterally around the carton near the center that enables one to open the carton merely by grasping it at each end and twisting it. At no point are the blasting caps allowed to accumulate in the machine.

Midget Mints. This high speed vertical type cartoning machine measures chocolate mints, chicken corn, jelly beans, chocolate raisins, fruit balls and other items from a hopper. Cartons are fed from a magazine, bottom end closed, confection dropped into carton and top end closed. Machine is arranged to measure out different quantities of the products. Machine is capable of handling more than one size carton.

Oxford Blades—Star Blades. New high speed records have been accomplished in the packaging of razor blades. A machine recently installed for handling Gem type blades is operating at an actual production speed of well over 200 cartons per minute. Blades are fed from magazine and assembled in stacks of the required count in pockets of a conveyor. Count is checked and any short stacks are eliminated from pockets. A mechanism prevents the feeding of a carton from magazine whenever there is an empty pocket. These two mechanisms prevent first, the placing of a short stack into the carton; second, the possibility of placing an empty carton into the display container.

STAPLING FOR PACKAGING AND DISPLAY

BY F. I. BROWN

MODERN MERCHANDISING METHODS first popularized and now demand the packaging of bulk or staple items in convenient units for instant delivery and sale. In many cases the spare time of clerks is utilized to pack these sale-size units in paper or transparent cellulose bags, sealing them quickly and securely with hand stapling devices. Where the work runs into volume and can be concentrated, foot-power or motor-driven staplers are employed. The cleanliness and convenience of such packaging is a great sales stimulant as well as a time-saver for clerks and customers.

Another use of staple-packaging is in the assembly of related items that should constitute the unit of sale. Bolts, nuts, washers, screws, etc., that should accompany an article of merchandise are stapled to a card, so that the customer is not kept waiting while the clerk makes the assembly and does not forget to purchase these necessary incidental items. This increases the sale by rendering a real service to the consumer.

Often this carding has to be done in different parts of the store or plant and small economical stapling machines are required. A wide variety of items often requires staples of several sizes, and quick, inexpensive adjustments of the machines must be possible. This demand has developed efficient, economical machines to handle any stapling job of this type.

Perhaps the broadest use of stapling in recent months has been in carding for display. Items of merchandise that are too small to possess sufficient attention power or to carry sufficient sales information are stapled to cards which present the message to the consumer. Such cards serve to identify the brand and the manufacturer, to convey a selling message that the article itself is too small to carry and the salesperson too busy to tell, to carry directions and explanations that insure the proper use and care of the product, to advertise other items made by the same manufacturer, and to discourage pilferage from counter displays.

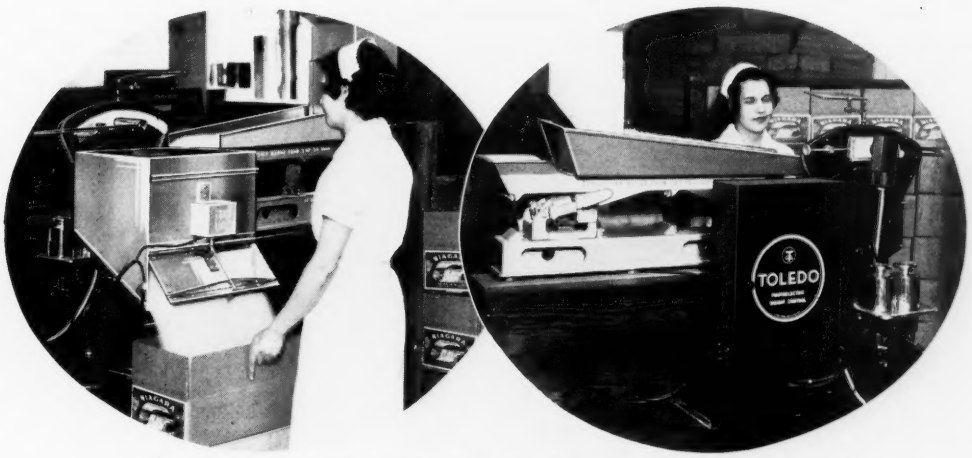
TOLEDO SCALE COMPANY · TOLEDO · OHIO

Automatic Springless Scales for All Net Weight Packing Operations

Canadian Toledo Scale Company, Ltd.,
Windsor, Ont.

Service and Sales Offices in 181 Cities
in United States and Canada

TOLEDO AUTOMATIC WEIGHERS



Just one type of Toledo Automatic Weigher which handles six to eight thousand pounds per day, of as many as 20 different kinds of macaroni. Weighs and fills three 20 lb. packages, seven 4 lb. packages, or twelve 1 lb. packages per minute.

The "Electric Eye Cut Off" controls the feeding, weighing and dumping operations. Maximum accuracy is assured because there is no mechanical contact whatever between this cut-off and the weighing mechanism of the Toledo Automatic Scale. Can be operated at varying speeds depending upon the nature of the product and the accuracy required.

Toledo Automatic Weighers of various types are now being used for handling a wide variety of materials such as macaroni, wheat, granulated sugar, candy, small nails, tacks, zinc oxide, lamp black, etc.

Also used in precision weighing and automatic filling of predetermined amounts of fluids or semi-liquids; and for weighing out predetermined amounts in batching and blending operations. The photo-electric tube "Electric Eye" controls the flow from the solenoid or motor operated valves. For high speed, two valves may be used, one for fast feed and another for dribble feed.

This type of equipment insures a high degree of accuracy by eliminating manual operations and mental calculations.

TOLEDO GRAVITYGRAM SCALE—INDUSTRIAL TYPE

For predetermined weighing operations where material is packed in containers of uniform weight. Capacity—30 pounds. Accurate to 1/1000 of a pound. Toledo pendulum indicating mechanism. Weighs correctly even when out of level. Near Weight Detector standard equipment.

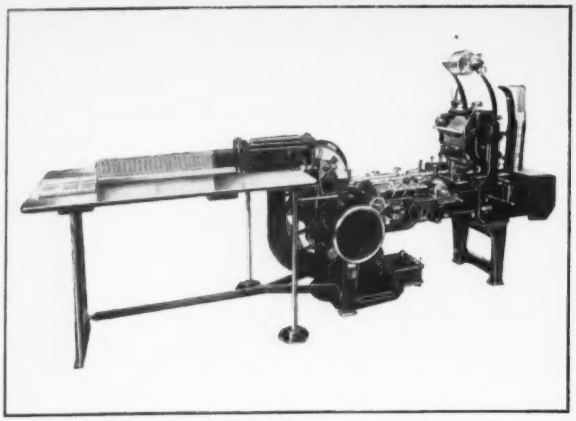
TOLEDO NET WEIGHT PACKING SCALE—BENCH TYPE

For packing predetermined net-weights in containers of uniform weight. Capacity 50 or 100 pounds. Portable type with capacities up to 250 pounds. Traditionally accurate Toledo pendulum indicating mechanism. Under-and-over-chart.

SCALE SURVEYS—Trained representatives of the Toledo Scale Company will make, without obligation, a survey of your particular weighing requirements.

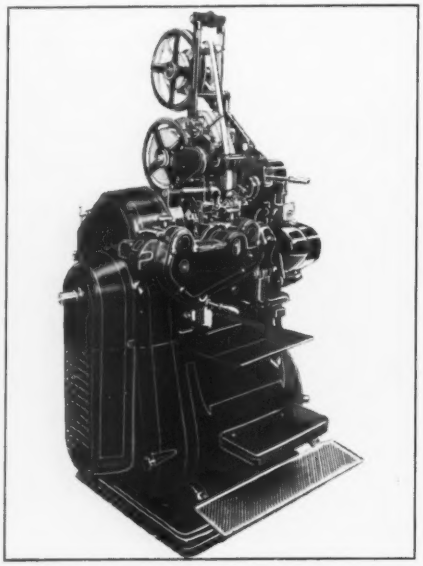
XUM

WRAP



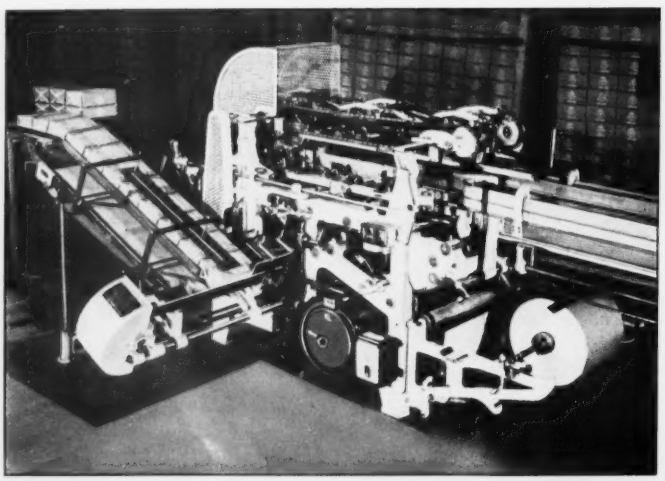
ROSE WRAPPING MACHINE • MODEL LG

High Speed Wrapping Machine for big production. Built in four different models. RANGE OF SIZE—Length, $\frac{1}{2}$ in. to 9 in.; width, 1 in. to 9 in.; height, $\frac{1}{4}$ in. to $3\frac{1}{2}$ in. Speed from 80 to 250 packages per minute.



ROSE FORMING AND WRAPPING MACHINE • MODEL 750

For plastic and hard candies, and chewing gum in different shapes. Built in six different models. PRODUCTION — 500 to 850 twist wrapped pieces per minute • 400 to 500 fold wrapped pieces per minute • 450 to 650 fold or twist wrapped pieces per minute.



STANDARD CARTON WRAPPING MACHINE • MODEL 3-84

SINCE the pioneering days of wrapping machinery, the trademark AMF has symbolized the utmost in automatic equipment for wrapping and sealing a variety of products.

The present day demand for AMF Wrapping Machines is due to their combined merits of high speed production, constant efficiency, economical wrapping costs and unusual adaptability to many wrapping requirements.

Many diversified products, varied in character, size and shape, are being wrapped on AMF WRAPPING MACHINES. For wrapping your products attractively and economically we suggest your inquiries for an AMF Wrapping Machine designed to meet your needs.

AMERICAN MACHINE & FOUNDRY CO.

NEW YORK, N. Y.

RANGE OF CARTON SIZES

Dimensions in Inches	WIDTH	HEIGHT	LENGTH
Minimum	1⅞	1⅞	6
Maximum	7	7	16
Production	35 to 45 Per Minute depending on size.		

PPING
CROWN PILOT
ONE POUND
WONDER BREAD
SLICED
IT'S SLO-BAKED
WONDER
10¢
YANKEE GIRL
SCRAP
TARGET
CIGARETTE TOBACCO
10¢
Bond Bakers
CRACKED WHEAT
WEIGHT 1 LB. 1 OZ.
Bond Bakers
WARD'S
HOMELIKE
RAISIN 5¢
COOKIES
Old Gold
CIGARETTES
Old Gold
KOOL
Cigarettes
RIPPLE
A WELL-BALANCED CIGARETTE BLEND
5¢
ITE OWL
Old Gold
CIGARETTES
ADMIRATION
GEMS
S. FERNANDEZ & CO.
SMITH BROTHERS
COUGH DROPS
LUDEN'S
Menthol
COUGH DROPS
WARD'S
HOMELIKE
FRUIT

Staplers being used for carding small items of merchandise. A stitcher, shown at left, is also used

Practically any item that can be embraced by a staple can be carded in this way. Bottles or other fragile merchandise can be safely and quickly handled, because the pressure of the stapling machine can be accurately controlled without variation and the staple can be firmly clinched with no appreciable pressure whatever on the object being enclosed.

Hand stapling of store-packed grocery items

Stapling is much faster for most kinds of bagging and carding than tying or glueing. There is no waiting for an adhesive to set, and the staple will hold regardless of temperature or moisture. Furthermore, stapling machines are portable and can be placed wherever is most convenient for the work in hand. For example, in retail stores, where pre-packaging is to be done by clerks in odd moments, hand-operated machines are used on each counter where the work is handled. Manufacturers and distributors can better concentrate their work and more often use foot or motor driven machines for both packaging and display. In the field, where fruits and vegetables have to be packaged as picked, stapling machines are used because of their portability.

The automatic feed staple-hammer is also widely employed in packaging and shipping operations. Driving a staple like a double-pointed tack, with each single blow, this hammer is an efficient time-saver in covering crates, in lining boxes, cars and boats, and in tacking cards and labels on boxes, crates, and barrels. Requiring but one hand for operation, it leaves the other hand free for handling the material that is being tacked.

It is interesting to note that all these applications of stapling are based on wire-stitching and are developments of the familiar desk fastener that has modernized the methods of attaching and filing papers in offices and factories all over the world during the past decade. The security, safety, and convenience of the wire staple in office work revolutionized these methods, and now the perfection of the desk fastener has extended its scope of usefulness and eliminated operating troubles, assuring uninterrupted, accurate operation. The application of modern principles of design to this new fastener is an illustration of the added sales value given to a product when its appearance is improved.

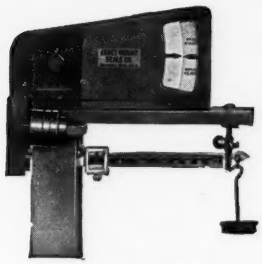
THERE IS NO SUBSTITUTE FOR

EXACT WEIGHT

Under and Overweight Scales to weigh from 1-500th oz. to 1000 lbs.

Exact Weight Scales are saving thousands of dollars annually in hundreds of industrial plants. By making fractional ounce overweights visible they make overfilled packages inexcusable.

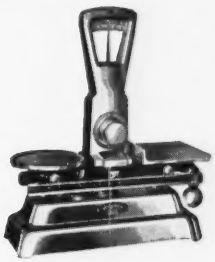
Exact Weight Scales require no leveling and may be quickly and easily moved from place to place.



EXACT WEIGHT INDICATING HEADS FOR BEAM SCALES

This new product of the Exact Weight Scale Company brings the over and underweight principle to the operation of beam scales whether portable or dormant. The addition of these heads to your present beam scale equipment will increase their speed and accuracy up to ten-fold. The Exact Weight Indicating Head may be quickly and easily installed by any competent mechanic.

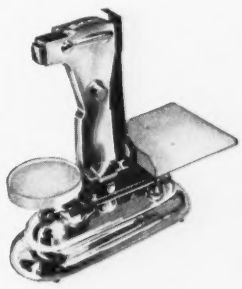
Model 213 (above) Capacity 3 lbs., Features the end tower which makes it especially adapted for unbroken straight line production over the scale. Its short platter fall theoretically multiplies the operating speed by four, and at the same time reduces the wear on pivots and bearings because of the lessened impact. This scale has been aptly called "the fastest commercial scale in the world."



Model 103 (above) Capacity 1/100 oz. to 3 lbs. is used for a great variety of purposes where extreme accuracy, speed and ruggedness are required. Fast packaging or check weighing operations, rapid counting of small objects, various operations for the control of uniformity etc., these are only a few of the applications.

Model 4035 (above) Capacity 300 lbs., is useful in a wide range of industries. Sturdily built with gray iron castings for permanent alignment and long service (may be furnished with Tare Dial which compensates for weight of container).

Model 403 (above) (Cap. up to 20 lbs., has cross tower which makes it adaptable to straight line production. It is adapted to fast weighing of heavier packages, check weighing or ingredient weighing, also for counting objects before packing.



Model 1021 (above) 53 lb. capacity, has top reading dial making it particularly adaptable for floor or low bench use. It is designed for lard packing, candy (in buckets) egg breaking plants and has hundreds of other uses.

THE EXACT WEIGHT SCALE CO.

31 W. 5th Avenue, Columbus, Ohio

TIGHT WRAPPING OF PACKAGES

BY CARL E. SCHAEFFER

THE TIGHT WRAPPED PACKAGE is now a standard type of package with many manufacturers and packers of food and grocery products. This type of package was first adopted a number of years ago by some of the cereal manufacturers, where its greatest advantage was in keeping the weevil from getting into the contents, and proved so satisfactory for cereals that it has been adopted for use with many other products, such as flour, soap powders, salt, coffee, etc.

Various types of cartons with inside bags or liners can be used with the tight wrapped package, as well as different types of opening devices. In the salt industry the tight wrapped package is now being used by many of the leaders, and one of the most satisfactory salt packages is a carton made of asphalt-lined board which is tight wrapped on the outside. For coffee, wax or parchment paper liners are generally used on the inside of the carton and the cartons are tight wrapped on the outside. For flour, the regular chipboard carton is used and some of the packers have these made with a blue lining on the inside which gives a whiter appearance to the flour. Various combinations of cartons, liners, and labels can be used to insure the product getting to the consumer in the best possible condition.

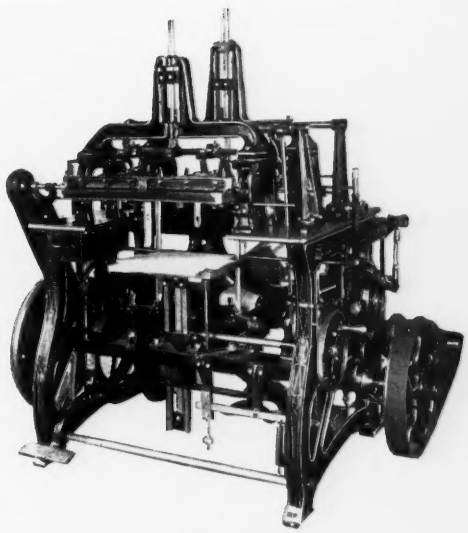
Another advantage of the tight wrapped package is for the packer or manufacturer who packs private label brands for different customers. If he uses the tight wrapped package he can use the same carton and merely have different labels for the different brands. This means a saving as it is not necessary to carry a number of different printed cartons on hand. With the tight wrapped package various types of labels giving different styles of end folds can be used to suit the conditions. Some labels are die-cut so that each end flap of the label is glued down separately. Others are rectangular, making a gusset fold on the end. For the

Group of tight wrapped packages for food and household products

100% NATIONAL Economy for You

START YOUR PACKAGING LINE RIGHT

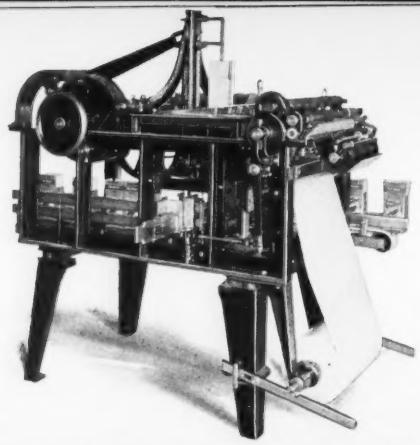
Start your packaging line with an **Improved Brightwood Automatic Paper Box Machine.** There is a **Brightwood** for any type paper box or carton forming requirement.



Strong, well formed boxes and cartons are necessary if succeeding packaging operations are to proceed smoothly. A **Brightwood Carton and Box Forming Machine** at the head of your packaging line can deliver finished containers up to a rate of 60 per minute. **Brightwoods** in hundreds of lines are delivering set up boxes, cartons, ice cream pails, full telescope, one piece boxes and shallow covers for hundreds of the country's leading manufacturers. **Brightwoods** can be quickly adjusted for a variety of production needs.

XUM

LINING



National Lining Machines are available for every possible lining duty—shallow or deep containers.

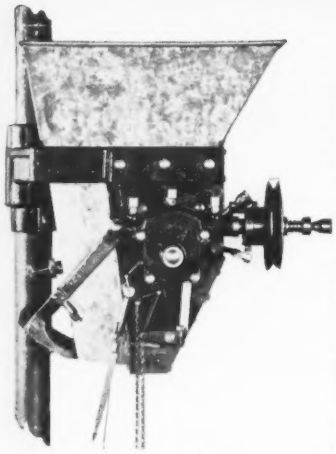
National Lining Machines automatically form liners from glassine, parchment, wax, "cellophane" or plain paper. Seals seams and inserts in carton or box. Easily adjusted to various sizes.

Speed—25 to 35 per minute.

Motor—1 H. P.

Floor space 3 feet 9½ inches by 6 feet long. No operators required.

NET WEIGHING



At left, **Type FE Feeder: Measures the Bulk** of the load and dribbles the finishing stream, thus increasing production without sacrificing accuracy. There are several other types of Feeders available to suit the different products.

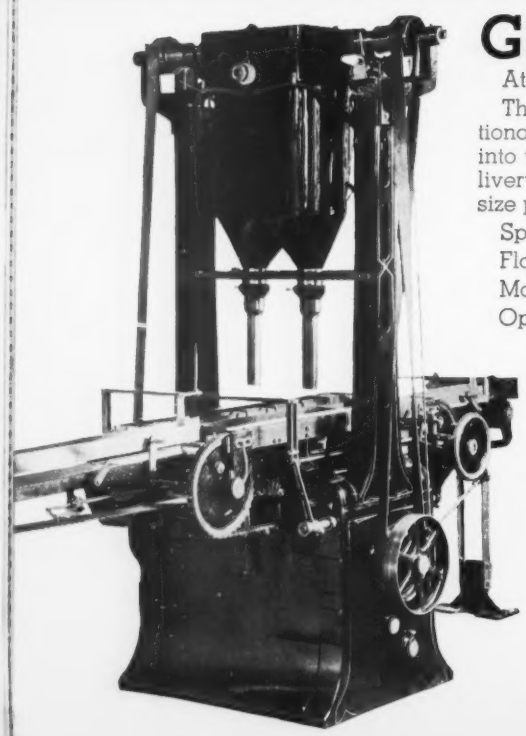
These Power-Agitated Feeding Units are interchangeable with the gravity feeder, in combination with the different sizes of scales.

At right, is the popular "Tripod" Mounted Scott Scale, to set on the work table. Shipped all assembled ready for operation.

There are three sizes: Model A—Capacity ¾ to 8 oz Model C—¼ to 3 lbs. Model D—1 to 5 lbs. These Scales are all single-lever, even-balanced, agate-bearing. Nothing has ever been found more accurate for weighing. Equipped with a patented friction compensating device which is actuated by gravity. Nothing can be simpler in construction and surer in operation.

Gravity-Fed Machines require no power and will weigh (net) any free flowing material such as bean or steel-cut coffee, corn meal, rice, salt, sugar, tapioca, etc., at from 20 to 30 packages per minute, with a net cumulative variation in weight guaranteed not to exceed 2 ounces on each 100 packages.

GROSS WEIGHING



At left, **National Model MK Bond Gross Weigher.**

The twin filling stations give this machine exceptional speed. Containers are automatically divided into two lines and again assembled for single line delivery. Easily adjustable and convertible for different size packages.

Speed: 50 to 70 per minute.

Floor Space: 4 feet 2 inches wide by 10 feet long.

Motor: 1½ H. P.

Operators: None.

At right, **National Model MH Bond Gross Weigher.**

May be optionally equipped for weighing, packing or volume filling. Is rapidly adjustable for packages ranging in size up to 14 inches high, and with a base up to 8 inches square or 8 inches in diameter.

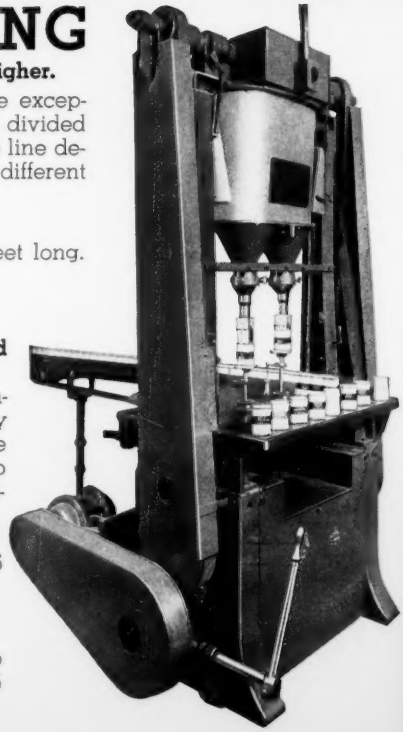
Speed: 10 to 50 per minute.

Floor Space: 4 feet 2 inches wide by 6 feet long.

Motor: ¾ H. P.

Operator: One.

Either model handles packages up to 10 inches high, and with a base up to 5 inches long by 3⅞ inches wide.



XUM

CARTONING

A machine that automatically feeds and opens cartons direct from a magazine; automatically feeds, folds and inserts leaflets with commodity; such as bottles, tubes, etc. into cartons; glues and seals or tucks flaps. Can be equipped with a corrugated liner attachment.

Also may be equipped to insert a group of packages into a container.

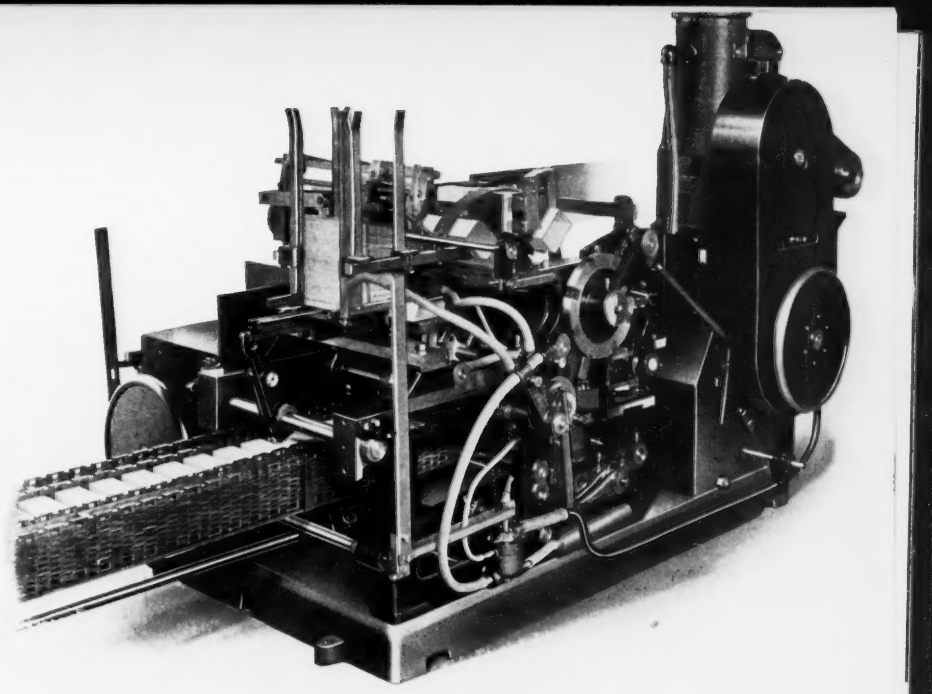
Successfully handles fragile materials but the outstanding feature is convertibility to various sizes. Cartons ranging up to 6¾ inches wide, 4¾ inches deep, and 10 inches high are filled and tightly closed.

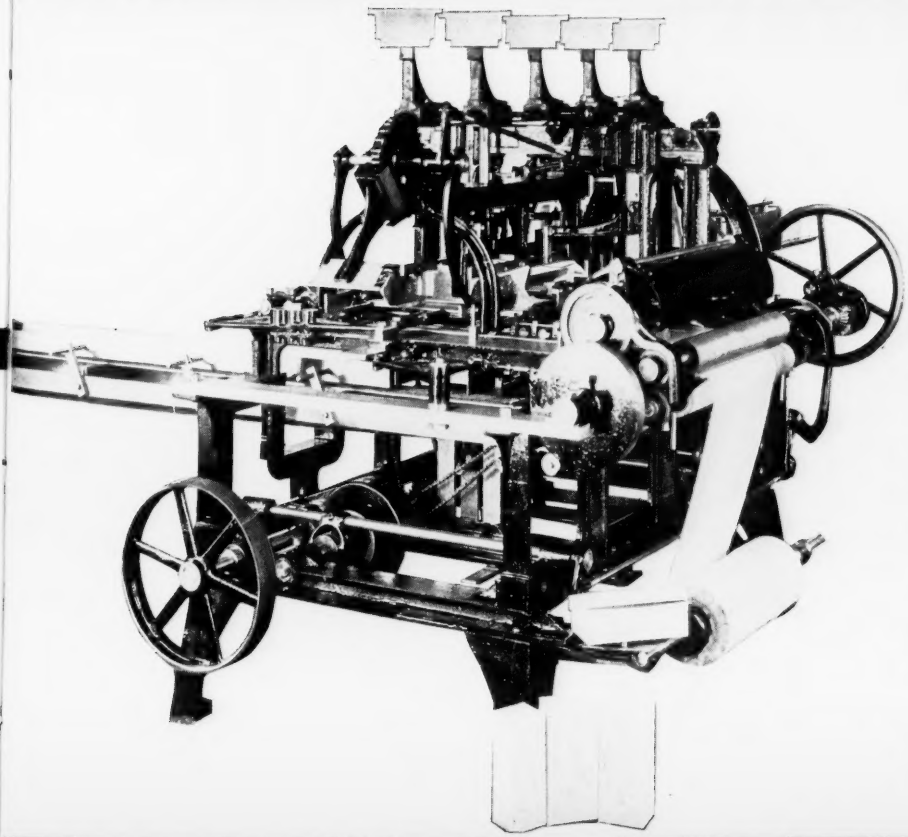
Speed: 30 to 60 per minute.

Floor Space: 5 feet wide by 10 feet 3 inches long.

Motor: 2 H. P.

Operators required: One.





WRAPPING

This machine automatically wraps individual cartons, boxes, etc., as well as groups of small containers, with heat sealed wax coated paper or "cellophane" direct from rolls, forming the longitudinal seam on either one side or bottom, also making the two point envelope fold on the ends. It is easily adjustable and convertible for various sizes.

Large Wrapper: Minimum 1½ in. by 2 in. by 3 in. Maximum 4 in. by 6¾ in. by 11½ in.

Small Wrapper: Minimum ½ in. by ¾ in. by 1¾ in. Maximum 2 in. by 4 in. by 6 in.

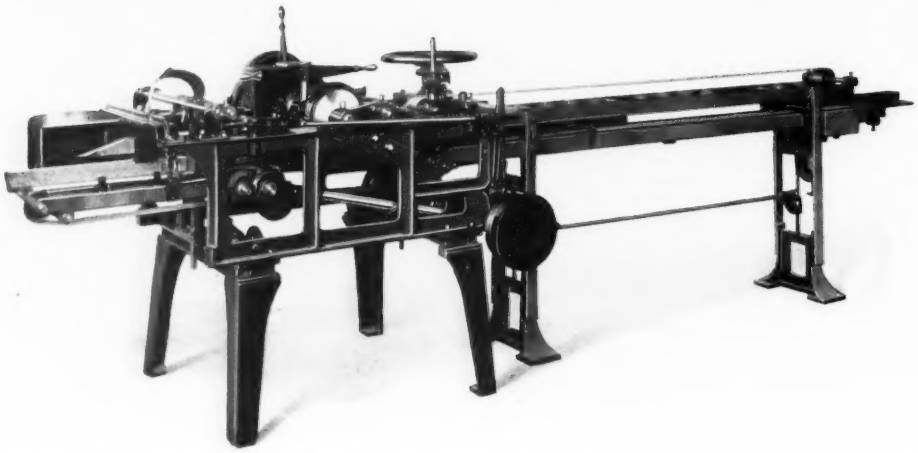
NOTICE TO THE TRADE and users of "NATIONAL" machines and machines made by United States Automatic Box Machinery Co., Inc.—Bond Weighers, Scott Scales and Feeders. T U Transfers, Liners, Wrappers, Carton Sealers, made by United States Automatic Box Machinery Co., Inc. and Cartoning Machines made by United States Automatic Box Machinery Co., Inc. bearing PACKOMATIC nameplates; when servicing and repair parts are needed, contact our home or branch offices as we always have been and are now the sole manufacturer and distributor of these machines. Write for our latest folders.

IT'S THE COMPLETE NATIONAL packaging line that SAVES MONEY

While the installation of any one of the units, available in National Packaging Machinery, will render great satisfaction in your present packaging line, it's the complete assembly of National machines from beginning to end that is most economical to you.

You can secure either full or semi-automatic equipment depending upon your production requirements. All engineered and designed to a high degree of simplicity and continuity of operation. Strong, sturdy and precision built, they operate at a minimum of upkeep and power costs. It will pay you to consider the complete National line for your packaging operation.

NATIONAL TOP SEALING MACHINE



Filled cartons are received and top flaps sealed with this machine. When cartons contain liners, the tops are interfolded with the flaps. Packages are then discharged into drying unit for setting of adhesive. Easily adjustable and convertible to different size packages. Package limits:

Minimum: ¾ in. by 1⅞ in. by 3 in.
Maximum: 3 in. by 5 in. by 8 in.
Speed: 30 to 60 per minute.

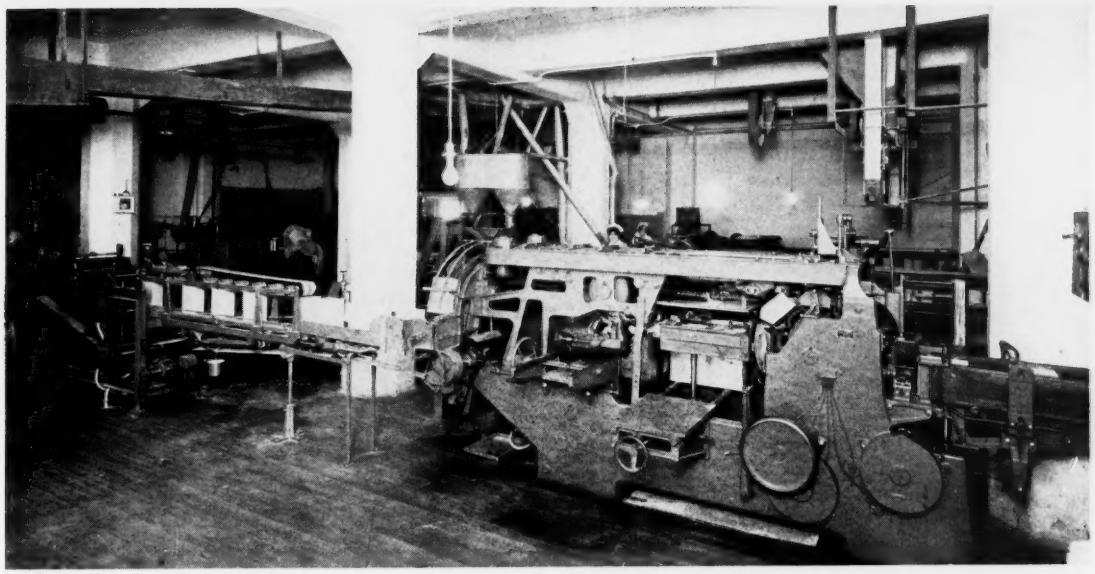
Floor Space: 4 feet 2 inches wide by 14 feet 6 inches long.
Motor: 1 H. P.
Operators Required: None.

Carton Forming Machines
Bottom Sealing Machines
Lining Making Machines
Cellulose Film and Wax Wrapping Machines
Collapsing Machines
Cartoning Machines
Combined Sealing Machines
Top Sealing Machines
Paper Box Forming Machines
Net Weighing Machines
Gross Weighing Machines
Taping Machines

NATIONAL PACKAGING MACHINERY CO.
DIVISION OF
UNITED STATES AUTOMATIC BOX MACHINERY CO., INC.
459 WATERTOWN STREET, NEWTONVILLE
BOSTON, MASS.

Branch Offices:

New York Cleveland Chicago San Francisco London, England



Tight wrapping installation at a Western milling plant. Photo courtesy of Stokes & Smith Company

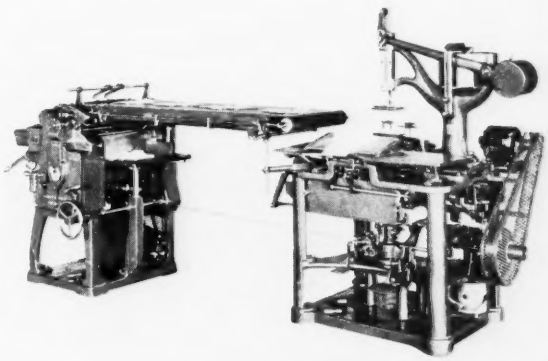
usual tight wrapped package, the labels are printed on a 40 or 50-lb. machine finished paper.

Recently the varnished label has been adopted by a number of packers and manufacturers using the tight wrapped package, and the package tight wrapped with the varnished label makes an ideal container for many food and grocery products. The varnished surface makes the package attractive, the colors show up to advantage and the varnished surface will not accumulate dirt or dust as quickly. Also, the package is more moistureproof as the varnish gives the extra coating on the outside. Another variation of the tight wrapped package is the one wrapped with a metal foil wrap. In this case the labels are made of metal foil laminated on paper so that the outside of the label is the printed metal foil and the inside is paper which can be glued uniformly to the carton. The foil wrapped package is very attractive as the printing and colors are bright and glistening and the metal foil makes one of the tightest and most protective package obtainable. Laboratory tests have shown that this style of package is one of the best for protection against moisture, grease, light, etc.

Another recent development combines the advantages of tight wrapping and wax wrapping at considerably lower cost. This is accomplished by printing and waxing only one side of the sheet of paper, and gluing the underside to all four sides and top and bottom of the plain carton. This development has been made possible through the perfection of electric eye methods of registration which permits roll feeding of the printed and waxed stock. Roll feed and electric eye registration can also be applied to regular unwaxed tight wrappers, and this is an advantage because under certain conditions roll printing is less expensive than printing in sheets.

Various kinds of adhesives can be used to suit the requirements. For the ordinary paper tight wrapped packages a cold vegetable dextrine adhesive soluble in water is used. For varnished and foil wraps there are several kinds of moistureproof adhesives and also Latex adhesives on the market. Some of these can be used cold and others require heat or a special solvent for running in the gluing unit which is integral with the tight wrapping machines.

The machines for tight wrapping packages are built in different styles and types to suit the conditions. There is a semi-automatic machine which is hand fed and adjustable for different sizes and has a production of 10 to 15 tight wrapped packages per minute. Then there is the fully automatic machine usually built for one size package to be wrapped and has a production of 60 to 70 tight wrapped packages per minute.



Semi-automatic adjustable tight wrapping unit

With the tight wrapped package the plain unprinted cartons are filled and sealed in the regular way, there being a number of different makes of semi-automatic and full automatic carton filling and sealing machines on the market. After the carton is filled and sealed it

is fed into the tight wrapping machine which automatically feeds the paper label as the carton enters the wrapping machine, glues the label all over on the blank side with a thin coating of adhesive and wraps it tightly around the filled carton, making a perfectly tight-sealed, non-sifting, weevil-proof, and attractive package. This package costs practically the same as, or possibly a little more than, the printed cartons, but there are so many advantages in the tight wrapped package which more than offset any slight additional cost. Some of these advantages are:

Better appearance of the package, stimulating sales. Printed or lithographed colors show up to better advantage on paper labels than when printed directly on cardboard.

Greater strength. The wrapper glued tightly to the carton strengthens the package, especially at the corners where there is generous overlapping of the paper for extra reinforcement.

Better preservation of contents. The contents of the package are fully protected against dust, odors, weevils, etc., and there is no loss from leakage.

CHECK-WEIGHING SCALES IN PACKAGING

THERE are two rather distinct types of weighing used in packaging operations: (1) the weighing operation performed by the automatic filling or packaging device, and (2) the check-weighing of individual packages for variations from standard.

As the modern automatic packaging devices include many features not directly associated with weighing, they are discussed under another heading. Filling devices are, of course, essentially scales with automatic features added. The application of the electric-eye to modern gravity-type scales has brought new standards of accuracy to this type of equipment. The inaccuracy caused by the use of any mechanically-operated switch in cutting off the flow of material is eliminated by the electric-eye. This electric eye is absolutely frictionless as the cut-off is operated by the interception by the indicator hand of a beam of light falling on a photo-electric cell device.

Weighing and filling unit for dry materials, equipped with vibrator feeder and photo-electric cell cut-off

Another problem affecting accuracy was the dribble of material after the cut-off had been effected. Now a vibrator conveyor (for dry materials) feeds the materials at a uniform rate, minimizing material in suspense when the cut-off is made. For liquids, two solenoid electrically-operated valves are used. The electric-eye cuts off first the larger valve, then allows the liquid to flow through the smaller valve until the correct amount is reached. The instant cut-off, and small flow, provide a high degree of accuracy.

All automatic packaging and filling devices require a check-weighing operation as a means of adjusting the packaging device to the correct quantity, and as a routine check-up on the uniformity of the packages.

Check-weighing scales are usually of the so-called "over-and-under" type, i.e. designed for a zero reading. The scale is counter-balanced for the predetermined load, either through the use of individual weights (in the smaller bench-type scales); or through the setting of blank beams to offset test weights placed on the platform (in the larger scales).

Since the scale is already counter-balanced for the predetermined amount of the load, quick reading is possible, as the indicator travels only an inch or so on each side of zero. The single zero indication also simplifies reading for the operator.

Modern check-weighing scales are unusually sensitive; and one of the 30-pound sizes is sensitive even to $\frac{1}{1000}$ pound. Scales of this type are available in a range of sizes from those capable of check-weighing packages of an ounce or less, up to 250 pounds or more.

Where a very compact scale is required small fan type scales are frequently used. These scales are likely to have charts of either ½ pound, or 1 pound capacity.

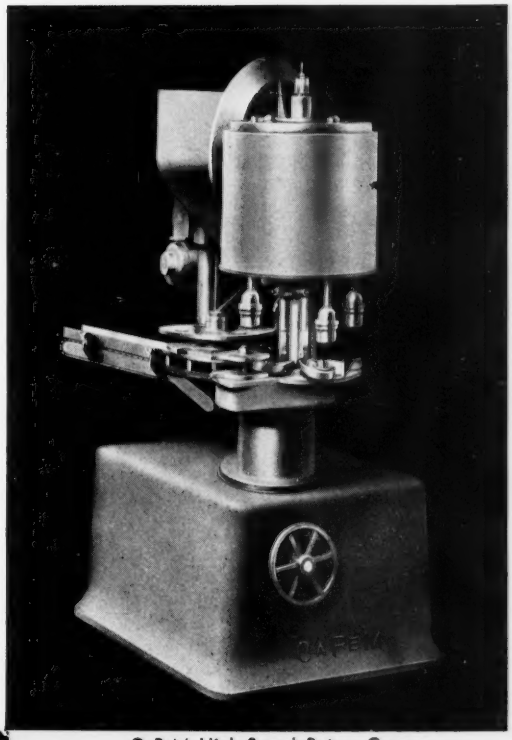
Quite often the check-weighing is done in a dusty

1936 Models

Geared to even higher standards of efficiency. These advanced types of automatic equipment are distinctly the machines of tomorrow. This however only serves to emphasize that they will do today's job with more all around efficiency than has ever before been possible.

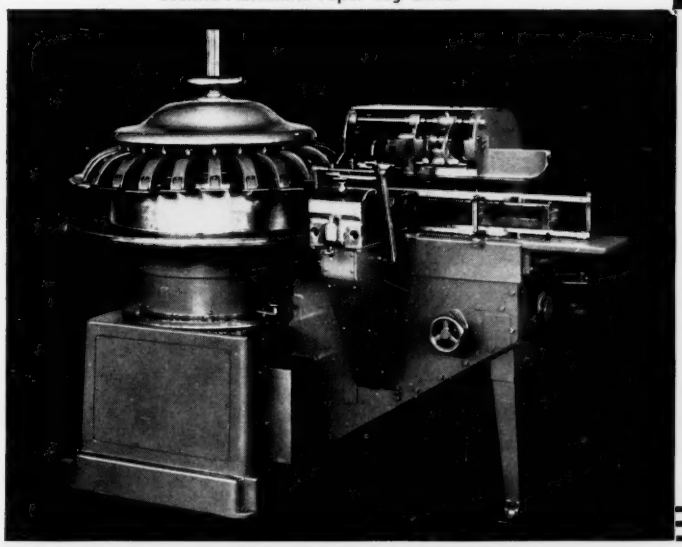
CaPeM

The 1936 CaPeM climaxes the enviable record of its predecessors. It offers the ultimate in automatic capping performance. CaPeM 1936 handles all types of rotated caps and any style of container at speeds up to 120 per minute.



CaPeM High Speed Rotary Capper

Sealtite Automatic Paper Bag Closer



HOEPNER

Typical of a completely redesigned line including high speed precision fillers for dry products—Automatic Scales—Industrial Sewing Machines and Paper Bag and Envelope Sealers of many types.

MANUFACTURED BY

CONSOLIDATED PACKAGING MACHINERY CORP.

1400 West Ave. BUFFALO, N. Y.

Type of scale widely used for check weighing small packages (8 oz. to 4 lbs.) because of compactness and sensitiveness. Not, however, of conventional over-under type

location where quantities of finely pulverized material might collect on the scale. In these instances, especially designed scales are available (equipped with grid platforms, weight covers, etc.) to protect the accuracy of the scale during operation.

In some filling operations, no automatic filling-device is provided, but the bags or containers are filled to something less than capacity, and then placed on the "over-and-under" scale. Material is then sifted into the container until the weight is brought up to the predetermined amount.

For handling coarser materials in bags, a special bagging scale is provided. The bag is held in position on the scale by a special clamp, and the flow of material into the bag is indicated on the scale dial. The cut-off is made by a hand-operated valve. This scale is, of course, of the dial type, and the weight indicated on the dial serves as an automatic check-weight for the bag.

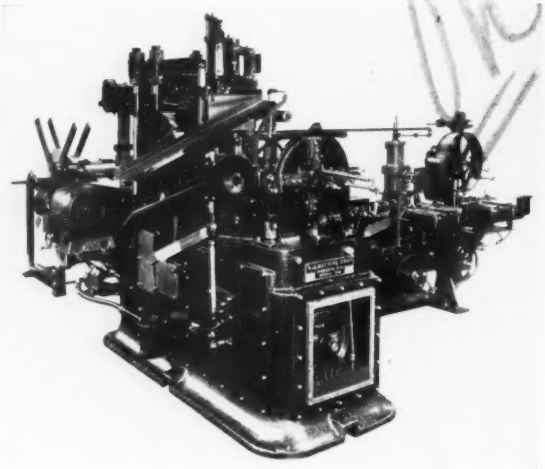
Modern equipment for quick, accurate check-weighing is absolutely essential both to prevent losses either through over-weight; or through ill will, and the legal consequences resulting from short weight.

PAPER BOX MAKING MACHINERY

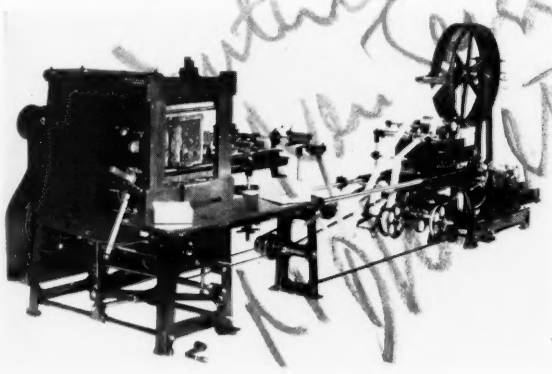
ARE paper boxes, packages? Obviously, when they are "made for a purpose," and completed with identifying printed papers, they assume the distinction of a package. Particularly when, as during the past few years, the development of automatic machinery has provided the means for creating many effects hitherto impossible. This machine development has been ably seconded by the fact that paper manufacturers also anticipated the demand for improvement in box making. Package designers, and plants producing their own boxes, complete or in part, are particularly pleased by the package improvements achieved with the aid of standardized machine operation.

Set-up boxes and methods of making them in their many types and styles may be grouped as follows:

1. Stripped and Top Labeled Boxes: The question of paper wastage prompted a different technique in box-



Automatic complete box making unit



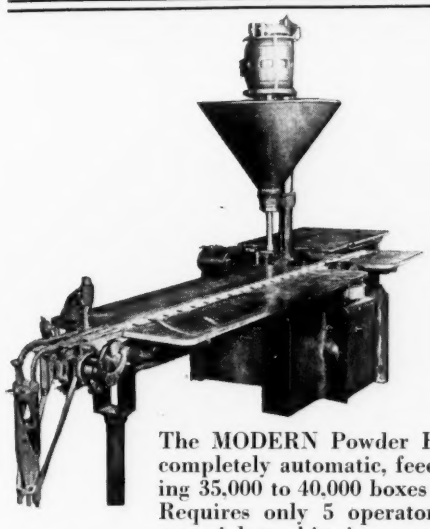
Semi-automatic stripper for large boxes

making. Since the bottom of the box is almost never seen, the larger boxes offer a decided saving in cost when made merely by covering the sides of the box, turning over the bottom edge, and turning-in the upper. This type of box, used for candy, shoes, rubber goods, shirts, collars, knit-goods, hosiery, etc., can be made on either semi-automatic, or fully automatic units. Naturally on large runs of standard size, the economy is

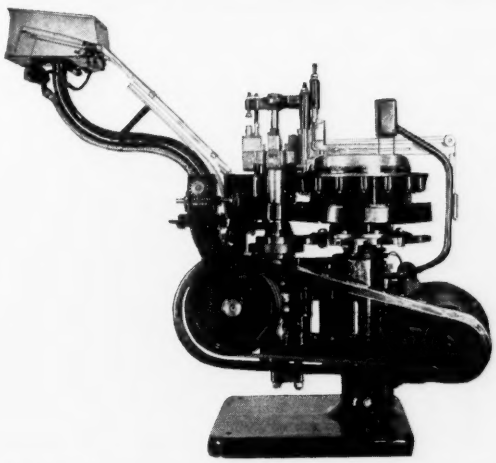
MODERN

AUTOMATIC PACKAGING MACHINES

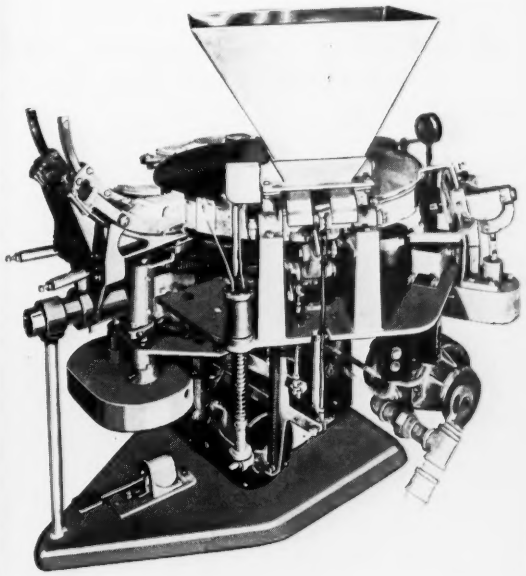
The three Modern machines described on this page are our standard models, each the finest and fastest in its class with many patented features. We also build special machines to solve your particular problems. *Write for full details.*



The MODERN Powder Box Filler is completely automatic, feeding and filling 35,000 to 40,000 boxes per 8 hours. Requires only 5 operators from raw material to shipping cases.



Easily adapted to your individual package, this modern Tablet Packaging Machine counts and packs in tin boxes, inserts protecting paper and advertising folder and clamps down box lid. Requires two operators, small floor space. Single-head machine produces 14,000 boxes per 8 hrs., double-head machine, 25,000 boxes per 8 hours.



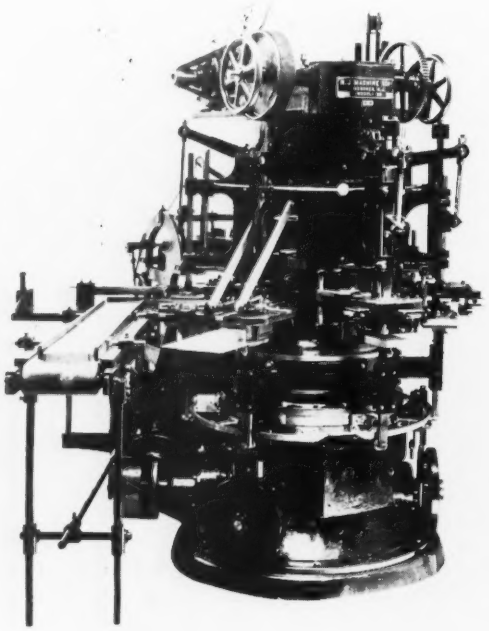
The Modern Envelope Filler is an automatic, double-head machine with a capacity of 180 fed, filled and sealed envelopes per minute. Adjustable for various sizes and shapes of envelope and weights from one to ten drachms. Requires only one operator.

MODERN PACKAGING MACHINERY CO.

Danville **Illinois**

appreciable, without really affecting the appearance of the box. For such work, fully automatic machines are available, although for most purposes the semi-automatic units are favored. A battery of units, assembled in production line, cut the board, make the boxes, strip them and apply the top label.

2. Wrapped Boxes: This is the method by which many of the ordinary boxes are made. The process, mechanized, still requires a skilled operator, with part



Fully automatic box wrapping machine

time of an attendant to feed and remove the completed boxes. Recent improvements have increased the potential speed of the wrapper, the gumming of the wraps being done by a gluing unit, which conveys the wraps to the operator. There is also an improved unit which takes the wraps from a hopper, applies the adhesive, automatically registers the set up box on the wrap and feeds it to the wrapping unit.

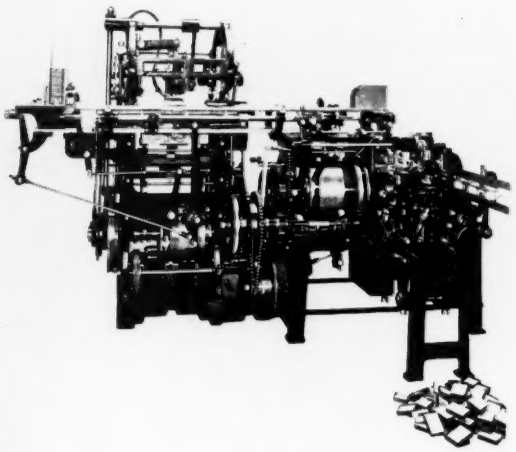
3. Blanket or Pinched Top Boxes: These are packages made in box-form, combining paper of two different types or colors, "blanketing" the top with the trade-mark label, and "stripping" the sides. There is a fully automatic unit capable of precision work for high grade products, at a speed which assures economy.

4. Padded Top Boxes: Like "domed tops," the padded top is an effect which adds distinction to the package. Mechanical units which handle the paperboard box and equip it with a cotton or paper pad, spotting the pad correctly on the inside portion of the top-label, and applying the complete, padded top to the box, have been standardized, so that a wide range of box sizes can be fitted with "padded tops" necessitating merely minor "form" adjustments.

5. Odd Shaped and Multi-Cornered Boxes: Fully automatic box, or package making units, are available for the "hand-made" type of box—those containers with unusual shapes—three, four, five cornered, even six or eight sided. They are outstanding "de luxe" packages suitable for a multitude of products. Modern trends toward ultra-distinction have built a market for these boxes which are most economically produced by high speed, precision automatic machines.

6. Slide Boxes: Many items are packed in slide boxes, the type comprised by a "shell," and the slide which carries the product, and fits snugly into the shell. Machines for making the shells, and for the slides, as well, are available. They are essentially speed machines, designed to operate at low cost.

7. Telescope Boxes: This is the type of box wherein the lid fits completely over tray. Methods of making these vary from the semi-automatic type requiring a single attendant, to the fully automatic (see paragraph 11) which takes board and paper from feed rolls. Such units are particularly economical where quantity production is a factor. The boxmaker, for instance, can produce first, the tray, and then its telescopic cover, and

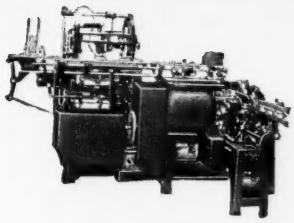


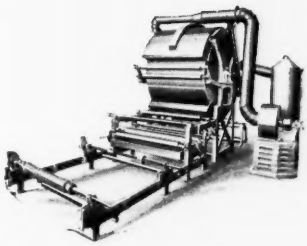
Automatic blanket top box unit (complete box maker)

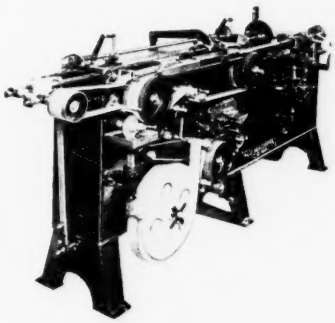
at other times can produce just trays of the same, or varying sizes, intended for transparent cellulose wraps.

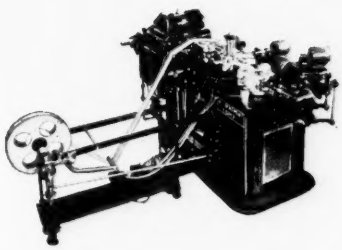
8. Boxes with "Necks" or "Shoulders": Problems in packaging which can be met with rectangular boxes, may find attractive appearance, in the happy solution of production by a unit which makes tops and bottoms of exact size and obtains a snug fit for them by use of a "neck," which is produced on a different unit, inserted after an "inside gluer" applies adhesive to the boxes as a conveyor feeds them from the box-making machines.

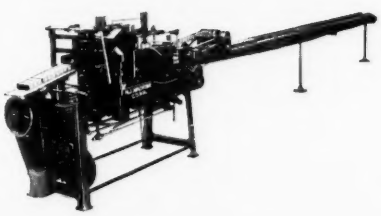
9. Hinged Top Boxes: One of the problems in production is the application of a hinge to packages, or boxes so that the container is permanently attached to the top, by a paper hinge, either inside, or part of a top and bottom label. There is a machine which does this work successfully and economically.

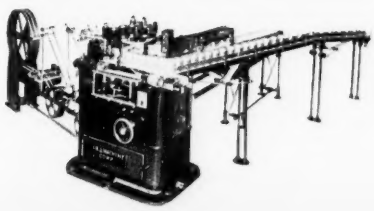


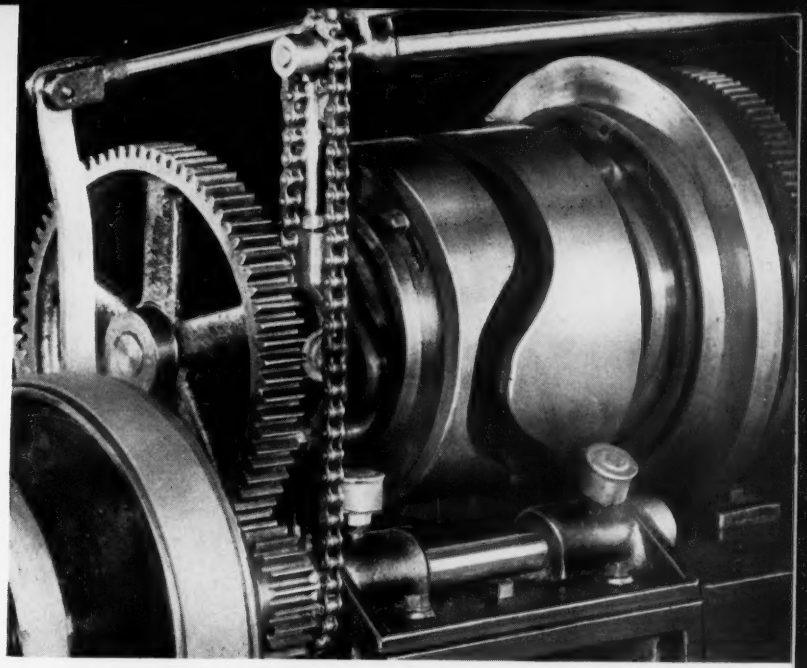












PRODUCTION BOTTLE NECKS ARE PROBLEMS WE SOLVE!

APPROPRIATE MECHANIZED UNITS ARE THE ONLY MEANS OF LOWERING COSTS AND STANDARDISING PRODUCTION

When "bottle-necks" exist in a production line, be they caused by inadequate machines, or massed (and costly) hand-labor, you face a needless expense. Fully automatic units, designed to overcome such handicaps, will speedily earn their cost, and provide greater production profits.

PACKAGE IMPROVEMENTS AND SPEEDIER ECONOMICAL PRODUCTION DEPEND UPON THE DETAIL OF MACHINE DESIGN

New Jersey engineers, facing a score of production problems, solve them with a foresight that goes beyond a mere knowledge of cams and gears. Economy of motion, pre-determined speed, single or "gang" delivery, and attendance by unskilled workers are the achieved goals, which assure you of perfect results day in and day out. Change your "bottle-necks" to smooth-flowing production.

Send your important problems to

NEW JERSEY MACHINE CORPORATION

1550 WILLOW AVE., HOBOKEN, N. J.

XUM

Sweet Music TO

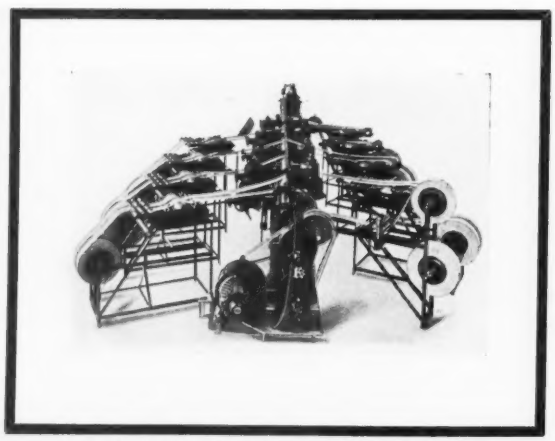
DISTINCTIVE PACKAGING

KNOWLTON Equipment helps solve the vital problem of building up sales (through Package Design) in an easy and economical way.

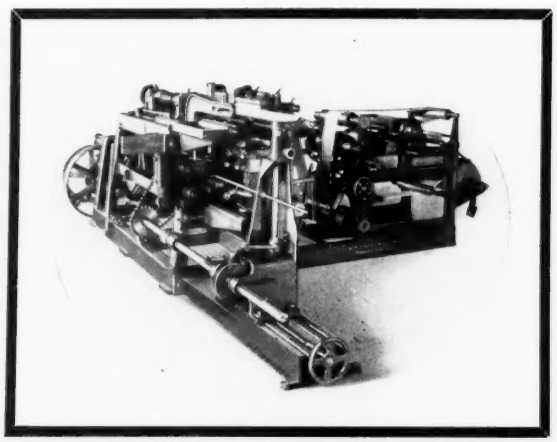
The new modern **KNOWLTON AUTOMATIC FIBER CAN MACHINES** are acclaimed by manufacturers and packers alike, as possessing many special advantages.

The **KNOWLTON AUTOMATIC CONVOLUTE WINDING MACHINE** accepts paper stock from the roll, automatically produces fiber can bodies, with attractive lithograph labels applied, in round, rectangular or irregular shapes.

The **KNOWLTON SPIRAL TUBE WINDING MACHINE** is the fastest and most economical operating machine for winding tubes, cores or can bodies from 2 to 19 ply. Unexcelled for tube strength, accuracy and quality in the manufacturing of food containers, fiber can bodies, cosmetic boxes, tissue cores, heavy mill cores, mailing tubes, dry battery cores, spools, waterproof canisters, etc.



HEAVY SPIRAL CORE WINDING MACHINE 15 PLY



AUTOMATIC CONVOLUTE WINDING MACHINE

XUM

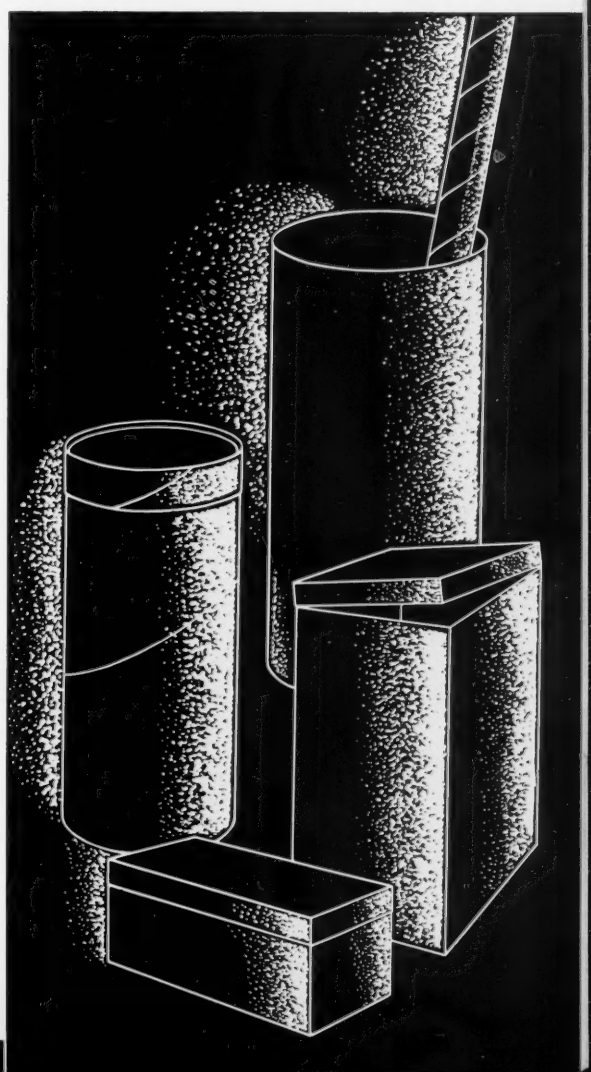
KNOWLTON

THE HOME OF QUALITY AND SERVICE

Originators and pioneer manufacturers of paper board converting equipment since 1888. Here are a few of our outstanding achievements:

1. Developed machinery and pioneered equipment installation in the manufacturing of set-up paper boxes (scorers, corner cutters, stayers, coverers, etc.).
2. Developed equipment for winding both spiral and straight wound paper tubing.
3. Originated gumming machinery for gumming flat sheet paper, delivering same gummed side up on moving conveyor.
4. Original coaters of gummed papers, staying materials, sealing tapes, etc.
5. Originated and developed the Auburn Annular and Ball Thrust Bearings.
6. Pioneered development of automatic roll coating, slitting, sheeting and creasing paper, board or fabrics in one processing.
7. Designed and built modern equipment for manufacturing and converting of corrugated and solid fiber board and shipping containers.
8. Developed and produced the collapsible link safety device for use on staying machines used in the manufacture of set-up paper boxes, also punch presses.
9. Designed and developed machinery for slitting and sheeting sensitized and photographic papers.
10. Developed equipment for automatically manufacturing the fiber bodied can (Modern Package), formed into round or irregular shapes, with lithographed label applied.

Write or call our nearest office.



M. D. KNOWLTON CO.

Rochester, N. Y.

Chicago New York

XUM

10. Trays: The enormous demand for tray packages, which, after filling, are either tight-wrapped, or topped with printed or transparent cellulose, prompted the manufacture of a fully automatic tray-making unit, producing at high speed. By employing a change of forms, telescoping lids for the trays can be made on the same unit. It is especially suitable for candy, soap, and similarly small packages.

11. Complete Boxmakers: Units already developed are available for making boxes complete from a slit roll of cardboard to the finished box at high speed.

12. Powder Boxes: The special field of powder boxes, whether round or square presents problems which are inadequately met by all questions of hand labor. The very nature of the product—its fine powdery form and its perfume—demand a packaging care not essential to other commodities. This called for an attractive outer container and an inner one—the "drum." General practice provided for a light paper cap over the drum, which was punctured and removed by the consumer. To make the neatest job the paper seal is applied prior to filling, and the powder put in through a die-cut hole in the paperboard bottom. The processes of replacing the cut-out piece, and sealing the bottom—after filling—is an automatic process, thanks to a machine designed for the purpose. A conveyor-fed "inside gluer" brings the outer boxes to the point where the finished drums are ready for insertion, and slipping on the cover finishes the process. Automatic units are also available to produce complete outer tops and bottoms.

13. Round Boxes: Even aside from the "powder" field, the demand for round boxes has resulted in the construction of yet another fully automatic unit which feeds sectional rings, and a hopper of die-cut bottoms, uniting, covering, and ejecting them ready for filling.

14. Domed Top Boxes: Getting away from the "usual" prompted development and marketing of automatic units capable of doming box-tops at profitable speed. Round, square or multi-cornered boxes can be domed, depending merely on the shape of the die used, dies being within limits interchangeable. Doming began with powder boxes, but has recently appeared on other merchandise planned to achieve "de luxe" appearance.

15. Labels That Serve as Seals: In many instances, packages require labels, and seals. Several machines are on the market which combine the sealing operations with labeling, by applying the label over the edges to be secured. Variation in size and shape of the package is the determining factor in machine selection.

The entire trend of package making has turned more and more to machinery of automatic nature mainly because competition has, first, demanded package distinction, and then the production of containers at a lower cost, without loss of quality, appearance and utility.

Package Tying Machines

SEVERAL NEW TYPES of automatic and semi-automatic tying machines have recently been placed on the market. The new principle embodies a manual cross-tie operation while the package is still in the machine. The machine stops at the half-way mark, permitting the operator to turn the package 90 deg. to the cross-tie position. A greater range of sizes can be tied with the cross-tie using this principle than with the old method, and greater speed can be obtained. There is an added tightness also, as but one knot is tied. These manual cross-tie machines come in double, triple and quadruple wrap and will handle all sizes of cotton twine, including cable cord. Three different ties can be made with any one of these machines—as, for example, the double wrap laundry machine. A cross-tie can be selected on a medium or small bundle; a double wrap one way on a large, heavy bundle, giving a strong tie; or a single string on a very light package.

Another new development is the transparent cellulose bag tying machine. This machine makes a double or triple wrap of colored or rayon twine around the neck of a bag, and the typical long loop bow-knot sets off the appearance of the tied bag. This tie also hermetically seals the bag.

There is now available a full line of tying machines to handle any and all packages or bundles.

Package tying machine at confectionery plant

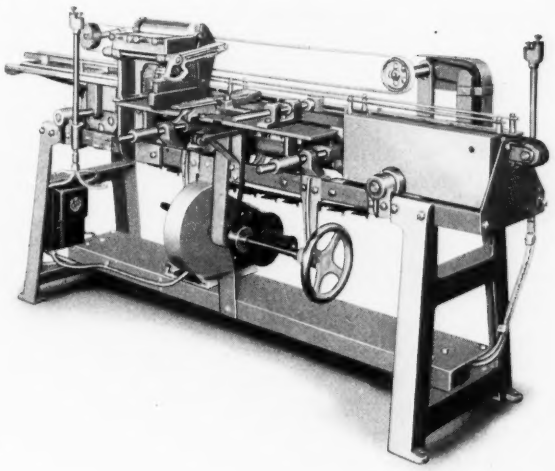
BURT MACHINE COMPANY

BALTIMORE, MARYLAND

CHICAGO NEW YORK CITY SAN FRANCISCO LOS ANGELES SEATTLE

Manufacturers & Designers of Automatic Labeling, Casing & Shipping Container Sealing Machinery

FLAT SURFACE or PANEL LABELING:



MODEL "E": This is for straight line application of labels to flat surfaces, etc. The adhesive is applied over the whole surface to be covered by the label, the latter is then applied, after which pressure is utilized to effect a complete seal.

The single type model above illustrated operates at a speed of about 60 of the average size containers per minute. A duplex model doubles the speed of the single type, this turning out about 120 per minute. The double type applies both front and back labels in one operation and can be supplied either in the single or duplex style. The Model "E" can be built for two or more size containers within a definite range, this being governed by how large or small the containers are.

The floor space of the single type is 7'6" x 3'4" wide. Double type: Same length as single—4'4" wide.

ROUND CONTAINER LABELING:

There are several models—one for spot labeling and also applying full length labels to #10 round cans; one for cans with ears and full length labels; one for smaller round containers; one for slip cover cans.

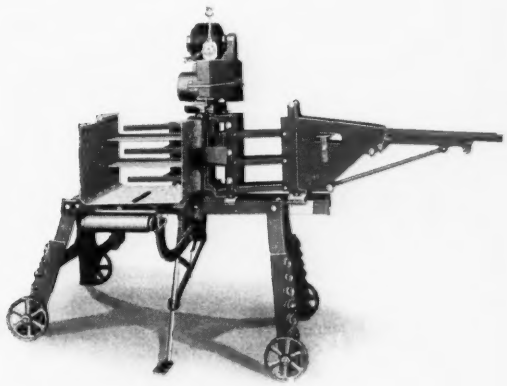
The "A" Models operate at the rate of 200 cans per minute when running at regular speed. Model "A" is for one size of cans, which can also be had for cans of two or more different heights, providing the diameter is the same. The adjustable Model "A" is a multiple diameter type (two or more diameters) suitable also for variable heights and built to order.

ALL OVER GUMMING OF LABEL:

MODEL "U": Applies a coating of gum over the entire surface of the round container to be covered by the label. Especially adapted for requirements which necessitate a gummed all over labeling job. Eliminates the slow shrinking of label process and preserves the lustre of the label. Operates at a speed of about 100 containers per minute.

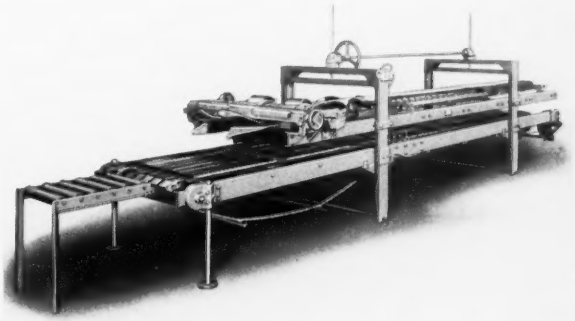
CASING MACHINES:

They assemble the necessary number of packages and then push these into the case. The Model shown, known as the ELECTRO, is for round cans and is 6'10" long, 2'2" wide. Other models are for rectangular packages.



SHIPPING CONTAINER SEALING MACHINE:

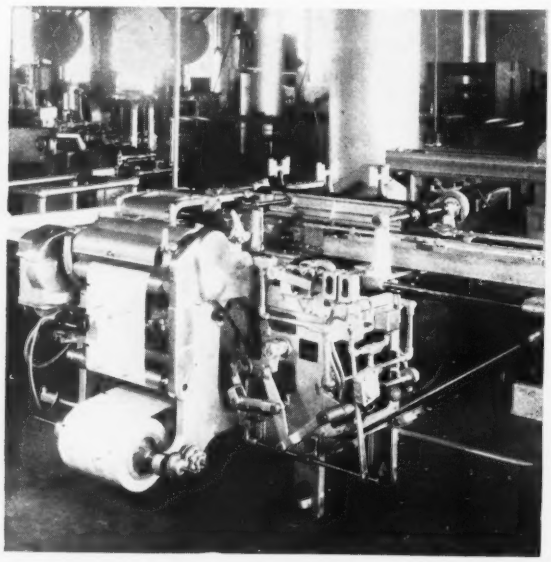
Receiving cases from the case packing machine or filled cases from any source, it automatically opens the flaps, applies gum, closes all flaps and applies pressure for sealing, finally delivering case ready for the shipping room. Easily adjustable for the range of cases in general use.



BURT MACHINES generally fit in with other equipment such as Fillers or Cappers and, from this operation on, provide mechanical handling of the individual package and case.

THE ELECTRIC EYE IN PACKAGING

Electronic Tubes have and will even further aid in perfecting the operation, and increase the present permissible speeds of many different machines and processes used in the packaging industry. There are various types of these electronic tubes available, each having different characteristics. Those sensitive to light are called phototubes or more popularly termed "electric eyes." Since the electrical charge or current of these phototubes is extremely small, it is necessary to strengthen or amplify these small electrical charges. This can best be done by means of other types of tubes such as amplifier tubes or grid glow tubes.



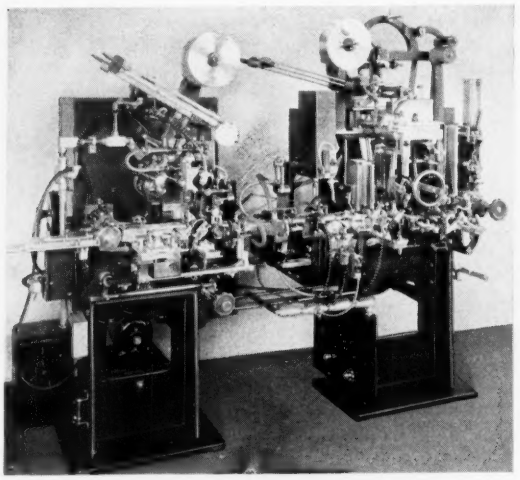
One of a battery of wrapping machines equipped with photo-electric cell control used to wrap a medicinal product. Courtesy, Johnson Automatic Sealer Co., Ltd.

Perhaps the simplest of all electronic devices is the so-called light relay, which consists essentially of a phototube in a suitable housing connected to a main control cabinet in which is contained either an amplifier tube or grid glow tubes. In addition the necessary circuit auxiliaries such as transformer, resistors, condensers and contactor are mounted in this cabinet. The light source, which generally consists of a standard automobile headlight lamp, is mounted in a small separate winding on the transformer in the main cabinet. Such equipment is available in a large number of types suitable for practically any type of power supply.

Such simple equipment can be used for counting up to speeds of 300 per minute by connecting a magnetic counter to the contactor located in the cabinet. In many applications the problem arises of how to reliably use such a counter on a conveyor system if there is any possibility of the packages jamming to form a continuous unbroken line. This can generally be reliably surmounted in one of several ways: i.e., locating the light source and phototube housing at a bend in the conveyor line; by sloping or inclining a section of the conveyor line thus permitting the packages to slide downward freely on idler rolls; or by providing a small drop section in the conveyor line and permit the dropping package to intercept or establish the light beam.

It is characteristic of electronic equipment that it can be controlled in many different ways. For example, if two contacts are used instead of a phototube the closing of the contacts will give the same results as light falling on the phototube, and opening the contacts will be electrically equivalent to intercepting the light beam.

Since the contacts need handle a current of only a few thousandths of an ampere they can be very light and, therefore, will respond readily to slight mechanical movements. This is being practically used on a continuous can testing machine operating at speed of 300 per minute in which a differential bellows closes a light contact if the can in one of the evacuated testing chambers leaks air while closed at one end by a diaphragm through the center of which air is being admitted into the can under pressure. The operation of the electronic equipment directly energizes a solenoid which trips a latch and thus serves to eject the defective cans.



Gum wrapping machines equipped with photo-electric cell. Courtesy, Package Machinery Company

When grid glow tubes are energized from a constant potential source, such as a battery or rectifier instead of a transformer operating from an alternating current supply, their operation is radically different. For example, for any voltage applied to the tube there is a corresponding critical control voltage which, when applied to the grid and if exceeded, causes the grid glow tube to pass current, and from that instant the grid has no further effect upon the tube to either increase or de-

ALL KINDS OF PACKAGES
AND PRODUCTS CAN BE
FILLED BETTER
with equipment designed
and built by . . .

THE FILLER MACHINE CO., INC.

FILLING AND DEPOSITING MACHINES

1246-54 E. MONTGOMERY AVE., PHILADELPHIA, PA.—NEW YORK—CHICAGO—BOSTON

MONTGOMERY BROS., PACIFIC COAST REPRESENTATIVES, SAN FRANCISCO

crease the flow of current. These tubes can be built to carry currents from a fraction of an ampere to several hundred or more and therefore can be used to operate directly power-consuming devices. If an electrical charge is impressed upon such a tube, and persists for only one ten thousandths of a second the tube will be

Liquid filling device equipped with photo-electric cell cut-off and electrically operated valves. Courtesy of Toledo Scale Company

triggered into operation, thereby passing current to energize a contactor which will operate to perform some desired control function. After the control function has been performed, it is only necessary to remove momentarily the voltage applied to the tube circuit in order to reset the equipment for another cycle of events. This type of equipment has been used, for example, to automatically sound an alarm if an improper label was about to be applied to bottles in an automatic labeling machine. Since the same size bottle was used for eight different shades of product and the labels were all identical except for the single word identifying the shade or color of the product, it was important that each label be carefully checked, preferably automatically since inspection by human eyes unnecessarily slowed up production or would increase inspection costs materially.

This problem was solved by arranging to code the individual labels on their reverse side by a dark colored printed spot approximately 3/16 in. square located in one of eight different possible positions. The phototube and light source focused a small spot of light on the label in the label magazine prior to its application to a previously gummed bottle. Since there were eight different possible locations for the printed spot on the label, this optical system was arranged to be adjustable so that the spot of light would be focused upon a particular point on the label to be inspected. The equipment was arranged with the grid glow tube in a D.C. circuit obtained by means of a self-circuited rectifier. If the printed spot was at the point of focus of the light beam very little reflected light was received by the phototube. However, if the printed spot was not at that point, indicating an improper label, the reflected light from the paper to the phototube was greatly increased, thus triggering the grid glow tube into operating to sound the alarm. The label magazine actuated by a mechanical cam was at rest or standstill for a period of approximately 1/40 second just prior to application of the label to the previously gummed bottle. It was during this brief interval that the phototube and light source moving mechanically in synchronism with the label magazine inspected the label. In order to desensitize the equipment during motion of the label magazine a rotating cam switch was provided.

The increasing use of printed bags and envelopes of various materials such as paper, cloth or cellulose has created another problem—one of register. Where an operator is depended upon to synchronize the position of the printed design with respect to the cutting operation or finished product, production is unnecessarily slowed up and waste or spoilage is dependent upon the operator's untiring watchfulness under particularly trying conditions, especially since he must also compensate for the inevitable variable stretch in the paper or other material caused by the tension imposed upon it during the printing and bag making operations.

The basic problem of register on a typical bag machine involves the simultaneous determination of the instantaneous position of the rotary knife and a fixed point on successive printed designs, then correcting accordingly. To determine the instantaneous position of the design on the moving web, a light source, phototube and amplifier tube generally called a scanner, is

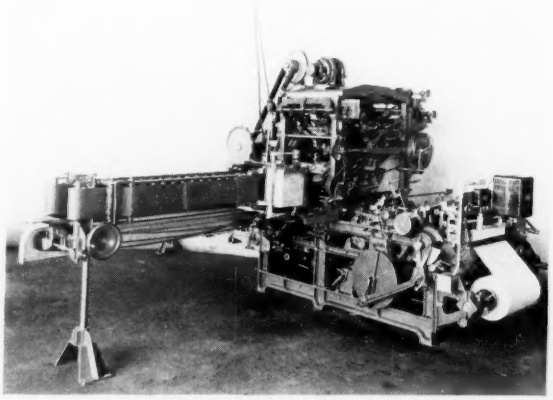


Photo-electric cell registration and roll feeding applied to equipment used for applying printed tight wrappers. Courtesy, Pneumatic Scale Corporation, Ltd.

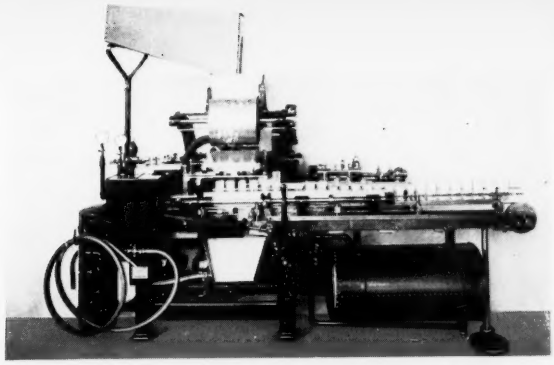
located so that a spot printed on the material passes beneath it. The phototube and amplifier used respond practically instantaneously, a momentary change in current through the amplifier tube takes place, therefore, as the spot sweeps by. The instantaneous position of the rotary knife is determined by a rotary selector or drum switch driven directly from the rotary cutting knife and provided with two electrically conducting segments making contact with a set of brushes. These segments

FOR 35 YEARS...

our engineers have been designing and building packaging machines that are especially noted for economy of floor space, for low up-keep and for maximum production with minimum waste.

The success of these machines is due to sturdy construction of simple operating units into single purpose machines and of combinations of these units into multi-purpose machines.

Within the limits of this space an approximate classification only of many models is possible. Your inquiries for any machine will receive the personal attention of experienced and practical engineers.



FULL AUTOMATIC BAG FILLING MACHINES

That open the collapsed bags, fill by volume or exact weight, fold and seal the bags. These machines are readily adjustable for volume and size of bags necessary to compensate for changes in price of materials. Bags of glassine, transparent paper in any standard design may be used.

TYPE B-1 1¼ to 4 oz.—speed 50 to 60 bags per minute
TYPE B-5 2 oz. to 8 oz.—speed 40 to 60 bags per minute
TYPE B-7 8 oz. to 16 oz.—speed 35 to 50 bags per minute
TYPE B-9 Duplex 1¼ oz. to 4 oz.—speed 100 bags per minute

FULL AUTOMATIC CARTON FILLING MACHINES

That open the collapsed carton, form, seal and insert the liner, fill the carton with a wide variety of products, close the carton by tucking or gluing—briefly classified as follows:

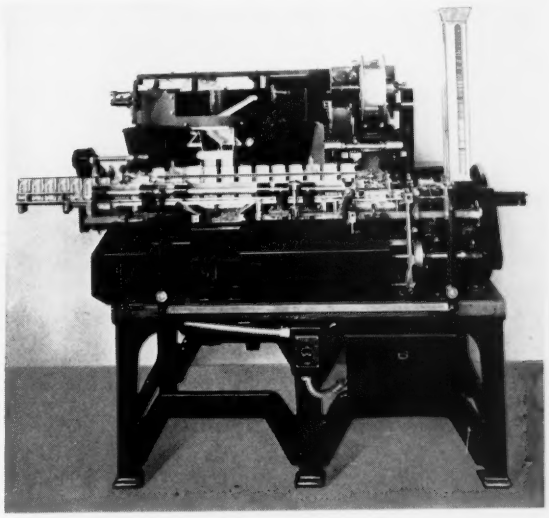
(1) Complete Packaging Machines with or without a Wax Paper Lining Unit.

(2) Complete Packaging Machines in combination with an outside Wrapping Unit, for Cellophane, Wax Paper or Glassine.

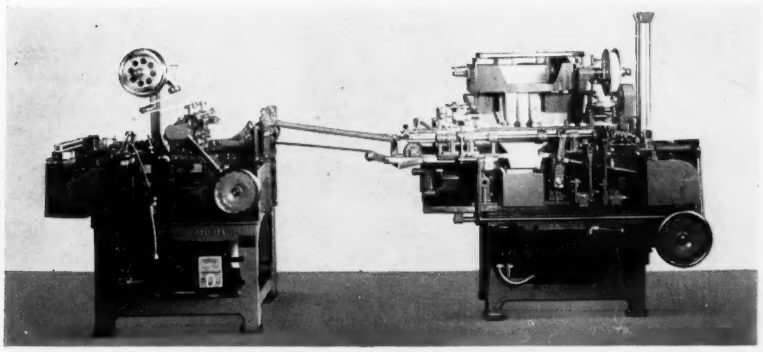
(3) Complete Packaging Machines equipped with a Counting or Volumetric Filling or Volumetric Filling and Weighing Unit.

(4) Combination of Wrapping and Carton Loading with Circular Inserting Unit.

(5) Combination Carton Forming, Bottom Sealing and Lining Machines.



COMPLETE PACKAGING AND WRAPPING UNITS EQUIPPED WITH AUTOMATIC TRANSFER CONVEYOR AND AUTOMATIC PAPER FEED CUT-OUT



FULL AUTOMATIC WRAPPING MACHINES

For wrapping items that are regular or irregular in shape with wax paper, glassine, or transparent paper. They may be classified as follows:

(1) Machines that wrap cartons in wax paper, glassine, foil, or transparent papers, either plain or printed.

(2) Machines that wrap articles themselves in any of the papers mentioned in (1). This wrapping may also be done in combination with cartoning.

(3) Adjustable wrapping machines for regular or irregularly shaped items.

(4) Combination Banding and Cellophane Wrapping Machines.

Cartoning Machinery Corporation

NEWPORT, RHODE ISLAND

Designers and Builders of Standard and Special Packaging Machinery

Home Office and Plant, Newport, R. I.

New York Office, 90 West St.

are arranged so that one brush makes contact ahead of the other. The two brushes are arranged so that they both are on insulating sections of the drum switch when the rotary cutting knife reaches its correct cutting position. Since the paper or web speed may be 500 ft. per minute or less, and the printed spot must be reasonably small, the equipment must respond to a change in light occurring in 1/500 of a second as the printed spot sweeps by. In order to obtain this speed of response, two grid glow tubes are used each controlled by a segment of the rotating selector switch. Therefore, with the machine in operation, if the printed spot sweeps by at the instant that the rotary knife is in its correct cutting position, the brushes of the selector switch will be on insulation sections and, therefore, the change in current occurring in the amplifier tube will not operate either of the two grid glow tubes.

It was impossible to use a full printed wax wrapper on a package until the introduction of these new electronic aids. All packages prior to this development which were wrapped in printed wax paper employed what was known as a running or repeating design. It is not possible economically to feed printed wax paper from a sheet feed.

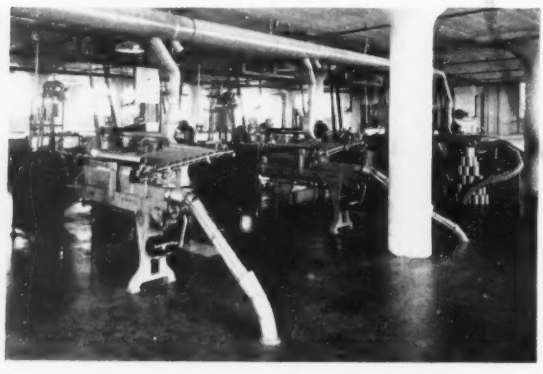
These applications of new electronic aids are only typical of some of their present field of usefulness which, in all cases, have definitely increased production, reduced waste or spoilage and have made packages which could not have been produced otherwise except at prohibitive expense economically possible.

FIBRE CAN MAKING MACHINERY

BY W. H. FRICKER

MUCH has been said and written about the advantages of fibre-bodied cans and their adaptability to packaging of various commodities, but little has been written about the equipment that has made this packaging progress possible and the history connected with the development of such equipment.

In the earlier days, that is, prior to 1890, all paper tubes used were hand rolled. That is, the paper board stock used in forming this tube was in sheet form. The



Paper tube saw and cut-off machines in operation in a food products plant. Courtesy, J. L. Ferguson Co.

diameter of tube to be wound and the number of ply were the determining factors of the size of sheet of paper board stock. This sheet of paper board was given a coating of paste or glue, applied by means of hand brushing, using a brush similar to a paint brush, the adhesive being applied to one side of the paper board stock with exception of one outside margin of sheet which was left uncoated. This uncoated section became the inside surface of the tube, the amount of margin being predetermined by the diameter of the tube being wound. The glued sheet was then wound on a wooden stick by hand, the stick being the proper size and shape of the tube desired.

In the year 1890 the first semi-automatic equipment for gluing the sheets was developed by the M. D. Knowlton Company, and at about the same time this company developed the semi-automatic tube roller. Both these pieces of equipment are still used in smaller plants where the production requirements do not warrant the fully-automatic machines described hereafter.

In the semi-automatic process the paper board is first passed through a sheet gluing machine where the adhesive is applied, leaving the uncoated section required for the inside ply. This sheet is then laid on a forked rack thus enabling the adhesive to obtain its proper tack for rapid adhesion.

The sheet stock is then taken to the tube rolling machine. The uncoated section of the sheet stock is inserted into the lip of a collapsible mandrel on the rolling machine, the treadle pressed which closes the lip of mandrel and simultaneously starts the mandrel in motion. The tubes are then wound to conform with the mandrel dimensions. The number of ply or wall thickness of tube is determined by the length of the sheet being wound. The tubes or can bodies are usually rolled into lengths approximately 36 in. long. It is the regular practice to cut these tubes to individual body can heights on the same machine as this machinery unit is equipped with a cutting bar which holds a series of cutting knives. The location of these knives on the

ECONOMIC MACHINERY COMPANY

Manufacturers of WORLD LABELERS

WORCESTER, MASS.

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PRODUCTS

AUTOMATIC AND SEMI-AUTOMATIC LABELERS for applying labels on all types of bottles, jars, tumblers and other articles.

Economic Machinery Company has been engaged exclusively in the manufacture of labeling machines for more than thirty-five years.

Superior mechanical construction combined with the best of materials and skilled workmanship makes World Labelers the most satisfactory and durable machines obtainable. Thousands of satisfied customers heartily endorse Economic service.

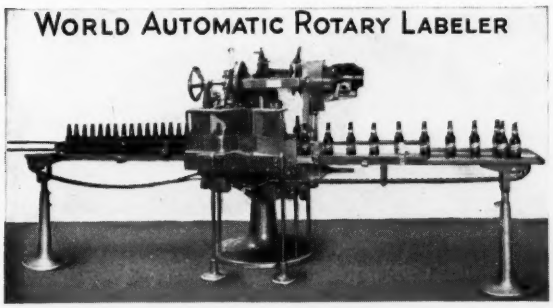
The company manufactures a complete line of hand-fed and automatic machines to meet all labeling requirements successfully and economically.

Every World Labeler is guaranteed to give satisfaction.

Write for advice regarding your labels, and send *labeled samples* of your bottles or packages showing the way you want them *labeled on the machine.* Detailed information and quotation will be sent to you promptly.

Let World Labelers solve your labeling problems.

All World Labelers are equipped with Zerk lubricating system.



THE WORLD AUTOMATIC ROTARY LABELER is the most efficient automatic labeler ever produced for labeling round bottles or jars. It is designed to meet the large production required in breweries and large beverage and food product plants.

The labelers are constructed either right-hand or left-hand. Where high speed equipment is installed our double unit will give any speed required and produce most satisfactory results.

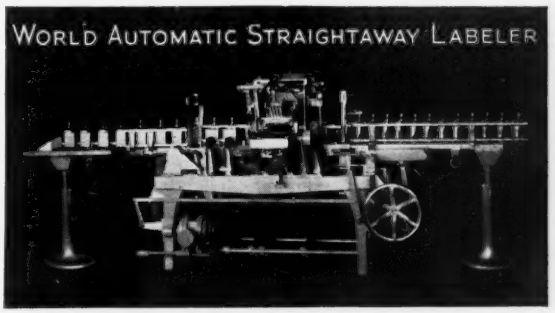
The labelers can be equipped with attachments for applying body labels only or body and neck labels on various sizes of bottles and jars. We can also furnish labelers for applying body and neck labels and foil, in one operation, on quart beverage bottles and other sizes.

Due to its simplified construction, all parts are readily accessible. The cost of maintenance is very low. Users of World Automatic Rotary Labelers reduce their labeling costs to a minimum.

Conveyor corner stands, and separate conveyor with independent motor drive, can be furnished as required.

The WORLD AUTOMATIC STRAIGHTAWAY LABELER is fully automatic, and has been designed to label flat, square, round, oval or panel bottles, modernistic jars or flasks and other packages. It is a custom built labeler, constructed for each individual customer's particular requirements.

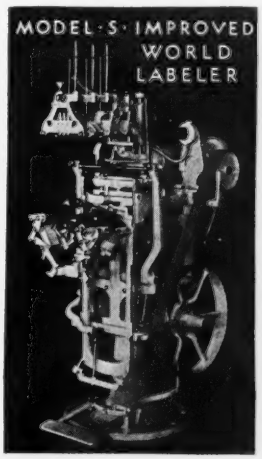
The bottles are automatically timed when conveyed into the labeler and, by means of special patented labeling mechanism, the entire surface of the label is gummed, and accurate registration of labels and smooth labeling guaranteed.



The labeler is built in various models. The single labeler applies front labels only, and the double labeler applies front and back labels in one operation. We also make special high production Straightaway Labelers for labeling two bottles at a time, operating at a speed of 100 or more per minute.

The labeler is equipped with feed and discharge conveyor and can be connected to other automatic units.

The labeler is heavily constructed and has proven most successful in many of the large production plants throughout the country.

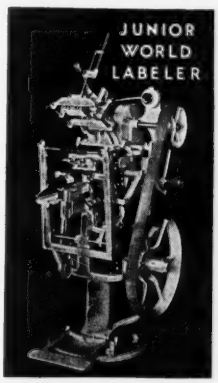


MODEL S IMPROVED WORLD LABELER is the latest type of the IMPROVED World Labeler, and has many exclusive mechanical features and improvements, developed by manufacturing experience of many years. It can be equipped with labeling attachments to label any size bottle, from small vials to gallon jugs.

The IMPROVED World Labeler is very generally used for applying body and neck labels and foil in one operation on quarts and other sizes of beverage bottles.

This labeler can be fitted with special attachments for applying strip labels on whisky flasks, and also for applying labels all around bottles.

It is ruggedly constructed, quiet and simple in operation, and will label your packages efficiently and economically year after year. It is the most flexible labeler on the market.



The JUNIOR WORLD LABELER is the smaller type of hand-fed semi-automatic, belt or motor-driven labeler. It is designed for applying body labels only on round bottles, jars, or other containers, where the label does not extend more than half way around the bottle.

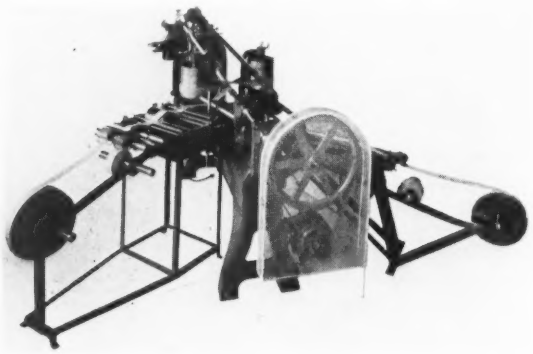
It is simple in operation and will materially reduce labeling costs as compared with hand labeling.

knife bar severs the long tube into predetermined lengths.

In the early days paper slip covers were used more extensively than tin. First a round disc was stamped on a single action press with a flange approximately ½ in. depth for gluing to the end of tube body. Later development was made in stamping presses that enabled the taking a roll of paper board, automatically feeding same to positive length under the forming and cutting dies. The machine, being of the double-action type, cut the disc and formed the cap in one travel of the plunger, discharging this cap into a suitable receptable.

The reception of the fibre-bodied can by manufacturers and packers alike was so outstanding and the demand for this type of package so great that immediately equipment was designed and built to obtain increased production of the can bodies. At this time the spiral tube winding machine was developed for taking paper in ribbon form from the roll, winding it over a mandrel to exact diameter requirements and to the thickness wall desired, this wall thickness being determined by the thickness of the ribbon board stock and the number of ply or ribbons being applied.

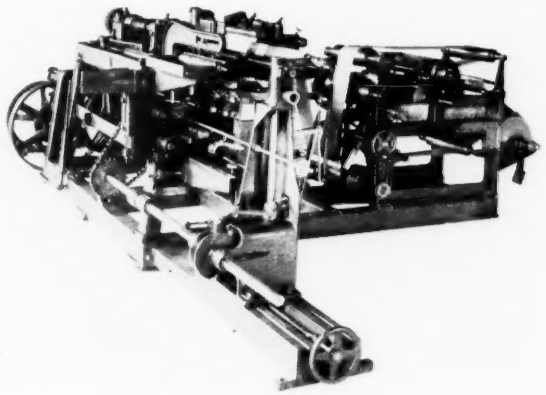
This means that the paper tube is automatically wound to accurate diameter and of correct wall thickness. An independent saw or cut-off, put in straight line with the winder, severs this traveling spiral tube body. The saw mechanism travels on a carriage with the tube thereby not retarding travel of tube while in process of cutting. This independent saw cut-off is located at proper distance from the winder to permit tube to dry sufficiently before actual cutting. The next operation is that of recutting this 36 in. length tube into can body lengths. This is done on a recutting machine where the tube is merely slipped onto a mandrel. The cutting arbor with knives properly located comes into contact with the revolving tube and severs same into predetermined lengths.



Spiral tube winding machine. Courtesy, M. D. Knowlton Co.

The spiral tube equipment as it is designed and built today has every convenience for obtaining high-class tubing with snug butts or joints, as well as applying high-priced finishing paper to outside of tube, which enables the user to manufacture not only plain fibre can products but also high-class cosmetic powder boxes. The spiral tuber as outlined above with special combination glue and paraffin units is used extensively in the manufacturing of food containers such as used for packaging ice cream and delicatessen products such as salads, baked beans, etc.

The latest and most modern equipment used in the manufacture of fibre-bodied cans is the automatic convolute winding machine. This winder accepts the paper stock from the roll, applies adhesive, automatically feeds the paper into the lip of the collapsible mandrel, cuts the paper to exact lengths, and winds a round, rectangular, or irregular shaped tube body from three to six plies. A unique slitting attachment is built into this machine enabling the slitting of the paper stock in travel so as to allow the obtaining of multiple can bodies within the given range of the machine. The automatic labeling attachment is a feature, which applies lithographed labels to the can bodies at the time of winding, thus producing a finished labeled can body ready for the seaming of tin tops and bottoms. Every operation of this new modern machine is fully automatic from feeding the roll paper to the discharging of the finished fibre can body onto the transfer conveyor.

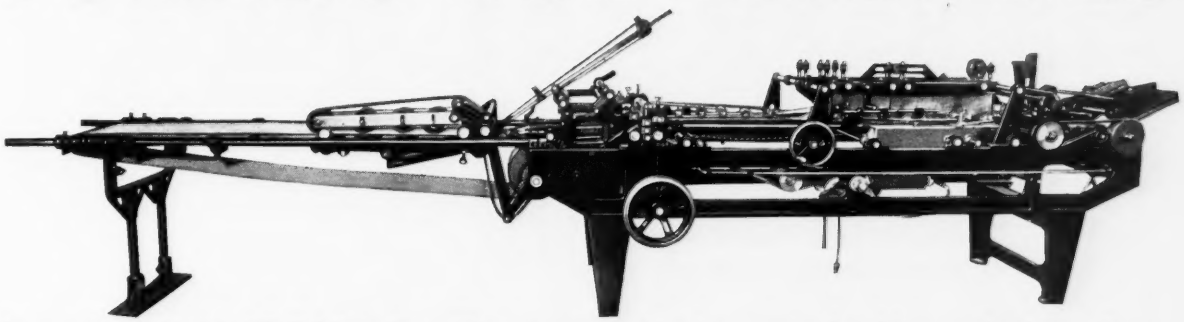


Automatic convolute winding machine

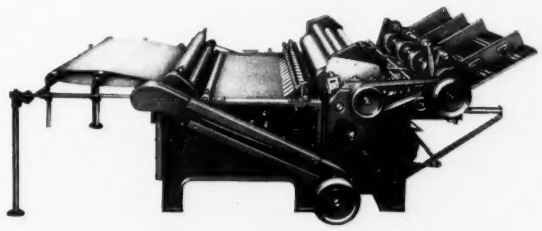
The last mechanical operation in the manufacturing of the fibre can is that of applying the tin ends. This operation or assembly is done on what is known as a roll seamer, either the round or irregular type as required. The operator places the tin end on the fibre can body, locates same on the seamer chuck, and presses the treadle. The seaming rollers turn in the tin end which fastens itself under pressure to the side wall of the fibre can body. This operation is completely accomplished in seven revolutions of the chuck, independent of the operator, giving what is known to the trade as "a false double seam."

The semi-automatic seamer is regularly used in commercial fibre-bodied can plants, because of the short set up time necessary to change from one size to another. In large consumer plants where runs are apt to be long, it is sometimes more economical to use a fully-automatic machine of which there are several.

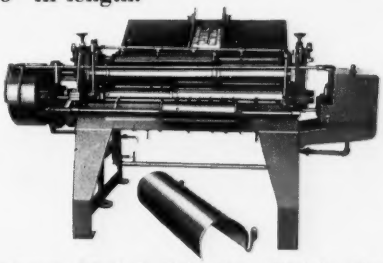
INTERNATIONAL
FOLDING BOX MACHINES



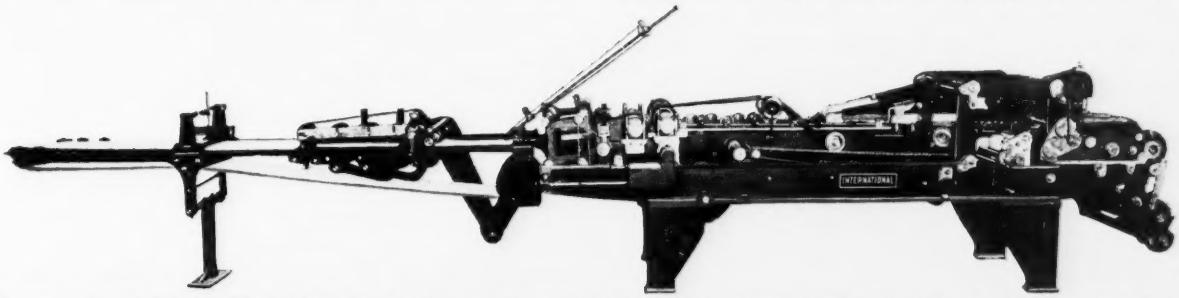
International Model SF Folding Box Gluer incorporating four score breaking mechanism. Range ¾″ to 6″ folded flat, 1⅞″ to 20″ in length.



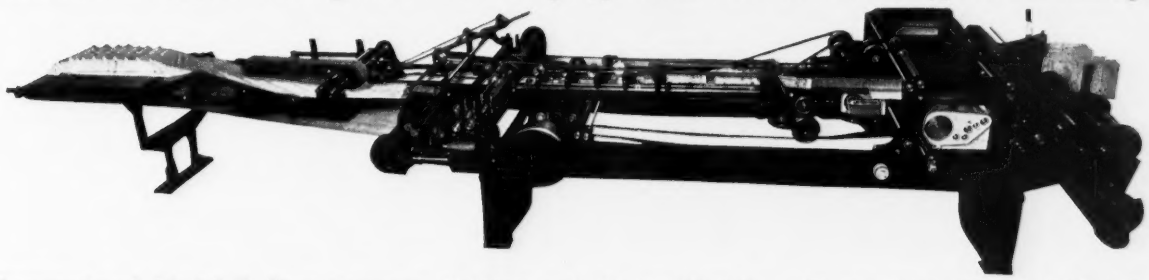
International Model RW High Gloss Paraffining Machine for making butter, lard, and ice cream cartons. Range 6″ to 45″ in length, 2″ to 45″ in width.



International Model 2P Hot Finish Paraffining Machine for coating either one or both sides of blanks or sheets leaving glue margins free of paraffine. Range 4″ to 36″ long, 5½″ to 22″ wide.



International Model U Folding Box Gluer. Range ¾″ to 12″ wide folded flat, 2¼″ to 18″ in length.



International Model B New Economy Folding and Gluing Machine. Range 1″ to 20½″ folded flat, 3″ to 40″ in length.

INTERNATIONAL PAPER BOX MACHINE CO.

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